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ABSTRACT

This sixth collection of research on middle schools is divided into three sections. Section I comprises five research articles, each with a practitioner's reaction discussing the article's implications for practice and suggesting further research. The articles include "Perceptual Styles of Pupils in Grades 5 through 8," by Grover Baldwin; "A Study of the Engagement of Middle School Aged Children during Mathematics Instruction," by David Byrd and others; "Middle School Principals and Job Stress," by Jack Brimm; "Consistency/Discrepancy of Disciplinary Concerns among Parents, Teachers, and Principals Associated with Middle Schools," by Joseph Huber; and "The Effects of Alpha Training on Achievement, Retention, and Disruptive Behavior of Middle School Children," by Doris Matthews, regarding a biofeedback method of controlling internal mind and body functions. Section II, a single article by Ernest Horn and Charles Mock, describes the evaluation of the middle schools program in Monroe County Community School Corporation in Bloomington (Indiana). Section III presents two articles by Hershel Thornburg and Randy Jones that assess the relative influence of individual-development variables and school-structure variables on student self-esteem and student perceptions on several issues.
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SELECTED STUDIES
1962

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MIDDLE SCHOOL
RESEARCH
SELECTED STUDIES
1982

Edited by
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Research Committee
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PREFACE

This sixth edition of Middle School Research: Selected Studies represents a departure in several ways from the format used in previous years. This year's compilation of original research is divided into three sections. Section I consists of five research articles that were selected for presentation using the blind review process that has been used in the past. However, this year a new feature has been added. Each of the articles selected for its research quality was subsequently submitted to a middle school practitioner who in turn wrote a reaction to the article. Each of these reaction pieces appears immediately after the corresponding research article. The inclusion of practitioner reaction is an initial attempt by the NMSA Research Committee to open up dialogue between education researchers and those who are in a position to make use of research in school settings.

The five research papers in Section I deal with a wide range of middle school research issues. Professor Baldwin offers new evidence in the area of cognitive development to support the 6-8 grade level organization for middle schools. Professor Byrd and his associates have taken the recently popular research variable time-on-task and focussed their attention on middle school mathematics instruction. Professor Brimm has studied the sources of job stress among middle school principals and developed recommendations for coping with stress. Professor Huber has provided a useful strategy for detecting agreement among parents, teachers, and administrators on not only the discipline issue but other potentially important issues. Finally, Professor Matthews suggests a strategy that may be useful in reducing the number of dropouts and the amount of disruptive behaviors. For each of these articles practitioners have discussed the implications of the research for practice and have suggested further research.

Section II represents an attempt to address the issue of program evaluation on a district-wide basis. While program evaluation is not "research" in the strictest sense since it's results are not generalizeable to other situations, the methodology may be useful to others in similar circumstances. We hope that the inclusion of the article on the Monroe County Middle Schools evaluation study will help administrators and school boards faced with the problem of justifying middle school programs. Our inclusion of this article is an attempt to address the concerns expressed by Jon Wiles in the February 1978 issue of the Middle School Journal:

We need, for the time being, to emphasize program evaluation - a problem-solving technique used to make decisions in specified situations - over research per se. We need to illuminate existing organizational patterns and operations to provide the responsiveness of the middle school as a form of education. We must begin to record more thoroughly both our intended outcomes and those unintended outcomes. In all cases, we must seriously address the role and definition of evaluation. Our long-term survival as an alternative to more traditional forms of education may depend on our interests in this area. (p.18)

It is the opinion of the authors of the evaluation article that, indeed, the study upon which it is based led to the survival of middle schools in Monroe County (Bloomington) Indiana.

Section III contains articles solicited for presentation on the theme "Development vs. School Structure: Differences in Early Adolescents." The two articles appearing in this volume represent half of the papers to be presented in a symposium-within-a-symposium dealing with the issue of the relative importance of child development and school structure on early adolescents. In addition to the articles published here which assess the relative influences of developmental and structural variables on self-esteem and students' opinions on a number of factors, papers on the social implications of giftedness and the relative impact of school structure and classroom organization will be presented during the symposium. In their second article Professor Thornburg and Jones present psychological evidence which seems to call into question the 6-8 grade level organization. From the first article to the last we offer new insights into the complex questions facing middle and junior high educators today.

By varying our format and branching into new areas, the Research Committee hopes to better serve the needs of both researchers and practitioners. We intend to pursue the end of bringing school people and university people together. The future of an applied discipline such as (middle school) education depends on it. We hope we have served to foster research in the service of practice without compromising the rigor and integrity of the former.

Thomas Owen Erb

Lawrence, Kansas
July, 1982

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Section I

Original Research and Practitioner Response

PERCEPTUAL STYLES OF PUPILS IN GRADES 5 THROUGH 8.

Grover H. Baldwin
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Since the beginning of the middle school movement, one of the nagging questions has been the proper grade organizational pattern for the middle school. Arguments have been made for grade organizational patterns of 6 through 8 and for grades 5 through 8. The result is that the conflict still rages today wherever middle school arrangements are considered. In the past decade, these organizational patterns have been based on the earlier physical development of the students as pointed out by Shuttleworth (1939) and Tanner (1962). These grade organization patterns were to lead to a greater homogeneity of physical characteristics for students in the middle grades which in turn would effect the social-emotional development. The notion of an organizational arrangement using grades 6 through 8 has been espoused by Alexander (1969), Eichhorn (1966), and Moss (1969). The work of Shoo (1970) was an early and definitive statement about the proper grade organization pattern and called for grades 5 through 8 to be fused together in middle schools. The questions still remains before each school district that considers the transition to a middle school arrangement.

However, while physical and social-emotional development are important, new evidence points to organizational arrangements by other criteria for increased achievement and development on the part of the middle school student. Beginning in the 1970's, the notion of placement of students in learning situations based on their learning styles and matching styles with teaching styles became an important consideration in the arrangement of instruction and pupil progress for school professionals. Trying to meet the needs of students has come to mean matching learning styles and teaching styles. This new form of matching has been espoused by Hunt (1972), Sanders (1972), Satterly (1971, 1979), and Witkin (1967, 1977).

In addition to the work of individuals with teaching styles and learning styles, the work of Epstein bears mentioning. With the work of Epstein (1974a, 1974b), interest has been placed on the brain growth periods as tools that might be used to provide proper curricular organization and instructional strategies for students. Epstein and Toepfer (1978), indicate that the brain growth spurts might serve as better delineation for the instruction of pupils than other criteria currently being used in schools. Harvey, Hunt and Schroder (1961) also indicate that there was such a growth phenomena in the conceptual ability of students. They termed these growth periods in conceptual ability as "saccadic" bursts during which the capability of the students increased to deal with concepts and new learnings. These authors linked their notion of the conceptual ability of the child to the stages of development set forth by Piaget.

In addition to establishing the notion of bursts of growth in conceptual ability, and the idea that these bursts are linked to a certain age pattern, Harvey, Hunt and Schroder also proposed that the conceptual ability of the individual was dependent on the differentiation in perceptions that

an individual brought to a learning situation. This idea is consistent with the work of Forgas (1967) who viewed perception as a process by which the individual gathered information about the surrounding environment, extracted that information, and used the information to solve problems and to increase the ability to learn. If it can be assumed that these ideas for cognitive development, for differentiation, and for brain growth and conceptual spurts hold true, and that these stages of brain growth as set forth by Epstein (2-4, 6-8, 10-12, and 14-16) and the stages of Piaget for the transition from concrete operations to formal operations (ages 11 to 14) are sound, then a basis for curriculum development, instructional strategies, and most importantly, grade organization arrangements might be prescribed.

With this background, the present study sought to examine the perceptual styles of students in grades 5 through 8 and to answer the following questions. First, what are the perceptual styles of students in grades 5 through 8? Second, where do the similarities and differences lie within, and between, these grade levels? Third, dealing with the questions of age and transition from one stage of development to another, what is the relationship between the age of the student and the perceptual style that they present to the world? These questions lead to the following hypotheses.

1. There is no significant correlation between the age of students in grades 5 through 8 and the perceptual style that they present when compared using the Group Embedded Figures Test.
2. There is no significant difference between the perceptual styles of males and females at the different grade levels (5 through 8) when compared using the Group Embedded Figures Test.
3. There is a significant difference between the perceptual style of students when compared between the different grades (5 through 8) using the Group Embedded Figures Test.

A directional hypothesis was used in this last analysis following the ideas of Piaget; Epstein; and Harvey, Hunt and Schroder that indicated that there would be a difference in the perceptual styles of students as they moved from one period of growth and conceptual development to the next.

Procedure

The population for the study comprised the students in grades 5 through 8 in a small mid-western community. At the time of testing, the district was organized in a K-6, 7-9, 10-12 grade arrangement. There were five elementary schools, two junior high schools and one senior high school. The total district population was approximately 3100 students in a community of 18,000 individuals. Permission was obtained to test the students within the four grades. School district personnel were assured by the researcher that the data would be synthesized and returned to the participating teachers to use in promoting appropriate teaching styles for the students.

The sample comprised two intact classes from each of the grades. To obtain as representative a sample as possible, using an ex post facto research design, the researcher selected two of the five elementary schools

and both of the junior high schools from which to draw the sample. The selected elementary schools represented the most heterogeneous population make-up of the schools in the district. The students in these two schools represented a diversity in socio-economic level, ability levels, and racial make-up. The two junior high schools drew their students from separate attendance areas which included the two elementary schools previously selected. A total population of 817 students were available for selection to the sample.

The sample was selected from the general population by randomly selecting two intact classrooms in each of the two elementary schools. These selected classrooms represented one grade at each level - fifth and sixth - in each of the two schools. In a similar manner, two classrooms were selected at each of the two junior high schools. The selected classrooms each represented one of the grades - seventh and eighth. A total sample of 172 students were involved in the testing. Of the 172 students originally tested, 167 students produced usable responses. The demographic data on the sample is as follows.

Table 1
Demographic Data

Grade Level	Number of Subjects	Average Age of Class - In Months	Sex and Number of Subjects	Age by Sex In Months
5	42	134.33	M - 17	134.059
			F - 25	134.52
6	34	145.47	M - 15	141.8
			F - 19	148.368
7	46	155.760	M - 23	156.34
			F - 23	155.217
8	45	167.31	M - 23	167.217
			F - 23	167.409

As with the use of any static group comparison, there is a threat to the internal validity due to differential selection - that the groups may be internally different at the start of the study and hence the final results might be less than accurate. To check for the possibility of any internal differences due to the use of this research design, Bartlett's Test for Homogeneity of Variance was conducted for both sex and grade differences. Results for sex (.323) and grade (.351) indicated no significant differences in the variances. Thus, both groups were homogeneous and any difference found would be due to the selected variable (the perceptual style of the student).

The test instrument used to measure the perceptual style of the students was the Group Embedded Figures (GEFT) of Herman Witkin (1971). The GEFT was developed as a test to be used in a group setting and was meant

to accomplish the same purpose as the individual Embedded Figures Test in the determination of perceptual style. The GEFT consists of 7 items that provide for practice in using the instrument and two test sections of 9 items each. The students are to match the various forms with what they perceive the forms to be in the test. The test is a timed test and was administered in conformity with the standards set forth in the test manual. Using the Spearman-Brown prophecy, Witkin (1971) reported the reliability of the 18 test items at .82 for both males and females. The same test of reliability was applied to the subjects of this study with a reliability of .84 as the result. As the test was derived from the Embedded Figures Test, and was used as a substitute for the EFT in a group setting, it should be noted that the correlation between the GEFT and EFT are reportedly quite high, with the absolute values set at .82 and .63 for males and females respectively (Witkin, 1971, p. 29). The testing took place in the period of two consecutive days. All data were scored by the researcher and analyses of the data completed.

Findings

Relationship between Age and GEFT.

The initial analysis of the data was a test for correlation to determine the degree to which there might be a relationship between the age of the students and their perceptual style. Using the SPSS Scattergram Program, the following results became apparent in dealing with the students scores on the GEFT. Of the 167 student responses, a correlation of .32 was found. With 165 degrees of freedom, this yielded a statistically significant correlation beyond the .01 level.

Further information can be gleaned from Table 2 below that shows the scattergram for the GEFT test score data when plotted against the age of the students. As can be observed, the ages of the students ranged from 123 months (10.25 years) to 181.00 months (15.08 years). GEFT scores ranged from 00.00 to 18.00. Additional information from the analysis yielded an intercept value of 145.06679 and a slope of 0.98. On the basis of this analysis, hypothesis one is rejected.

Relationship between Sex and GEFT.

In turning to hypothesis two, a one-way analysis of variance was conducted to determine if there were any differences in GEFT scores by sex. This test, comparing all males and females, yielded the following results as noted in Table 3 below.

The F ratio of 2.049 yielded no significant differences at the .05 level between males and females on an overall analysis of the GEFT scores. On the basis of this analysis, the second hypothesis was accepted.

Relationship between Grade and GEFT.

Following the determination that there was a significant correlation between the GEFT scores and the ages of the students, a one-way analysis of variance was conducted to determine if there was a significant difference between the grade (5 through 8) on the dependent variable of the GEFT scores.

The results of the one-way analysis of variance are found in Table 4.

Table 2
Scattergram - Age and GEFT

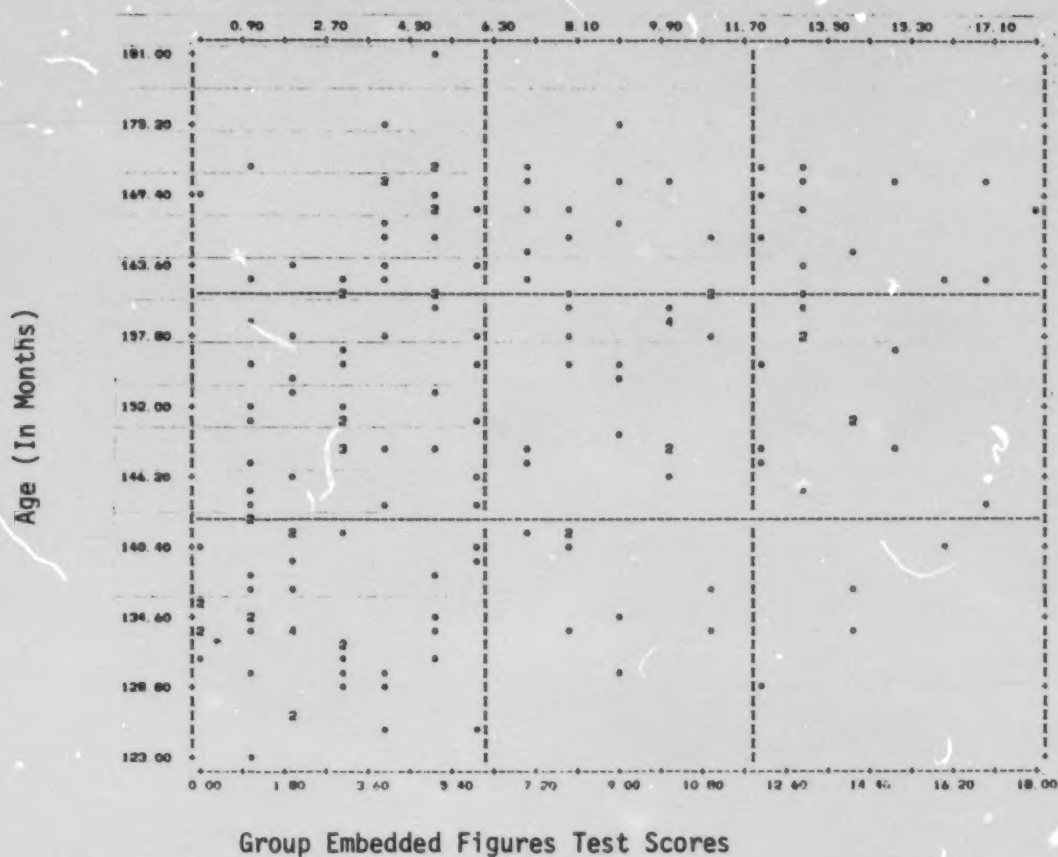


Table 3
Analysis of Variance - Sex by GEFT

Source	D.F.	Sum of Squares	Mean Squares	F Ratio
Between Groups	1	43.0559	43.0559	2.049
Within Groups	164	3467.5925	21.0157	
Total	166	3510.6479		

Table 4
One-Way Analysis of Variance - Grade by GEFT

Source	D.F.	Sum of Squares	Mean Squares	F Ratio
Between Groups	3	491.6753	163.8918	8.849
Within Groups	163	3018.9792	18.5213	
Total	166	3510.6453		

The F ratio of 8.849 with 2 and 164 degrees of freedom, yielded a statistically significant difference between the grades on the dependent variable of the perceptual style score as measured by the GEFT beyond the .01 level.

To determine where the differences lay between the grades, separate t-test for independent samples were conducted on grades 5 and 6, grades 6 and 7, and grades 7 and 8. The results of these analyses are found in Table 5.

Table 5
T-Test Results - GEFT by Grade

Analysis	Grade	Subjects	Mean Score - GEFT	t-value
1	5	42	3.95238	1.85024*
	6	34	5.7353	
2	6	34	5.7353	1.34797
	7	46	7.1304	
3	7	46	7.1304	1.51453
	8	45	8.5111	

* significant at the .05 level for a one-tailed test.

As there was an expected difference between the competing grade levels, a one-tailed test of significance was applied to these findings. With degrees of freedom established at 74, a t -value of 1.661 was extrapolated for a one-tailed test at the .05 level. As the t -value for grades 5 versus 6 reached 1.850, hypothesis three was accepted as there was a statistically significant difference between grades 5 and 6 on the GEFT. The extrapolated t -values for analysis 2 (grades 6 versus 7) and analysis 3 (grade 7 versus 8) were 1.667 and 1.664 respectively. As the analyses yielded t -values of 1.347 and 1.514, which were below the t -values needed to accept the hypothesis, the hypothesis was rejected for the second and third analyses.

Discussion

In reviewing the findings, what can be said about the perceptual style of students in grades 5 through 8? First, there is significant correlation between the age of the student and the perceptual style as indicated on the GEFT score. The fact that this relationship is a linear one is also demonstrated in the average GEFT score for each of the grades. Recalling the data in Table 4 (grade 5 = 3.05238, grade 6 = 5.7353; grade 7 = 7.1304 and grade 8 = 8.5111), the scores all point to this movement in perceptual style scores as students move through the grades. The scores support the work of Witkin (1967), that indicates that students move from a field dependent status to a field independent status as they grow older.

However, we must examine the data pertinent to the comparisons between the grades as well as the mere reporting of this trend. As was indicated by the t -tests which compared the various grades, there is a significant difference in the perceptual style scores between the fifth and sixth grade students. This significant difference is not repeated in either of the two comparisons between grade 6 and 7 or grades 7 through 8. Rather, there is a similarity between the three grades. This data supports the claim of Epstein (1974) concerning the plateau that is reached in the brain growth periods between ages 12 to 14. The data also supports the theory of cognitive development established by Piaget that a transition from concrete to formal operations would occur between ages 11 to 14. As Forgas (1967) suggested, perception is a process of gathering and ordering information about the environment. We must review the ideas of Harvey, Hunt, and Schroder (1961) in relation to these findings. These authors hold that as the student moves to a more perceptive state, the student is capable of increased conceptual learning and problem solving. The findings indicate a move from a field dependent status to a more perceptive, field independent status. This supports the idea that students are becoming more abstract reasoners as they become older and progress through the grades encompassed within the middle school movement.

Finally, a review of the nagging question that began this pilot study is in order. What is the "best" grade arrangement for students within the pre and early adolescent age span? Traditionally, middle school educators have looked at the physical and social-emotional development and needs of students and made decisions based on the similarity of individuals in these areas. However, if students are to succeed in areas of achievement and, if success in achievement breeds security and stability of self-concept, then students need to be arranged in grade organizational patterns that best suit their styles of learning. The perceptual styles scores show that the simi-

larity lies with those students that are between grades 6 through 8, with grade five being significantly different from grade six. This finding, plus the notions of the brain growth and conceptual bursts that were supported by the data, give general support for the contention that proper grade organization for middle schools might be best put at grades 6 through 8.

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A PRACTITIONER'S VIEW OF PERCEPTUAL STYLES

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The research article, "Perceptual Styles of Pupils in Grades 5 through 8," by Grover H. Baldwin seems to have some real usefulness for school systems planning a reorganization of grade levels within schools or a justification of the grade levels presently served by a particular school. In the article, Baldwin notes that the proper grade organization pattern for the middle school has always been a nagging question and suggests that besides physical development, social/emotional development, learning styles, and teaching styles, brain growth periods and perceptual styles should be considered when determining the proper grade organization pattern for the middle school.

When examining data pertinent to the comparisons between the grades, Baldwin found that there was a significant difference in the perceptual style scores between the fifth and sixth grade students. This significant difference was not repeated in either of the two comparisons between grades 6 and 7 or grades 7 and 8. Thus, Baldwin contends that the proper grade organization for middle school might best be put at grades 6 through 8.

Usefulness of This Research

With the decline in enrollments and the loss of funding, school districts are looking for ways to save expenses. Reorganization of schools and the closing of buildings seem to be ways often times mentioned. With any shift in grade level organization, the middle level of education always seems to bow to the wishes of the high school and elementary school. Some school districts wanting to save neighborhood elementary schools are suggesting that sixth grade be removed from the middle school and placed back in the elementary school. Even though sixth grade has been part of middle level education for many years, parents who feel their children aren't "ready" for middle school or who want to save a neighborhood elementary school favor this move. This study is an important contribution to the idea that the sixth grade student does resemble the seventh grade student far more than he does the fifth grade student and thus is physically, socially, emotionally, and mentally more like a middle school student than an elementary student.

Similarly, grade five as part of the middle school does not have strong support now and hasn't received total support over the years. Kindred (1981) wrote:

Brooks and Edwards in surveying 4060 schools found almost 2/3 included grades 6 through 8, whereas less than 1/3 encompassed some arrangement of grades 5-8. These findings represented substantially the same proportions as those discovered by Gross in 1970 and by Alexander three years earlier. The

majority of those middle schools that begin with grade 5 are located in large urban areas (p. 78).

Thus, the findings of Baldwin support the organizational pattern of grades 6 through 8 now found in the majority of the middle schools.

Any move for reorganization must be made on practical grounds; yet, many times these moves are made solely for administrative reasons with little thought of the "best" organization plan for the students. If middle level education is to become an area that receives separate and equal treatment with the high school and the elementary school, it must be able to justify its existence. Research such as this by Baldwin could strengthen the position of the middle school in matters of reorganization and help educators make good decisions about the organizational patterns of school systems.

Problems with the Research

Although I feel Baldwin's research has definite merit for school systems considering reorganization, I feel he has done only half of the job and this limits the usefulness of this research. Baldwin quotes Epstein's stages of brain growth at ages 2-4, 6-8, 10-12, and 14-16 and Piaget's transition from concrete operation to formal operation during ages 11 to 14. In a recent issue of Educational Leadership Robert Sylwester (1981) quotes Epstein from a 1978 publication in which Epstein concludes by saying that

in normal children this (brain) growth spurt occurs during a period of about six months sometime during the two-year period, generally earlier for girls and later for boys. During the 10-12+ growth spurt, female brain growth is about three times that of males, and the situation is reversed, favoring males, during the 14-16+ brain growth period.

In most school settings, the child is 13 for the majority of his eighth grade year and 14 for the majority of ninth grade. Thus I would have liked Baldwin to continue his study with a comparison of grades 8 and 9. In his study grades 6 and 7 were more similar than were grades 7 and 8. If what Epstein and Piaget say about brain growth patterns and perceptual styles is true, then grade 9 because of the age of the students involved should have been included in Baldwin's study. The schools Baldwin used for the sample were organized K-6, 7-9, 10-12. Thus the sampling for grades 9 should have been relatively easy to obtain.

Baldwin in his opening sentence talks about the proper grade organization pattern for the middle school. The only reason I can see for not including grade 9 in the study would be if Baldwin feels that grade 9 is the domain of the high school or more specifically, the junior high school. However, research has shown over and over again that the junior high school and the middle school are far more similar than different. Alexander and George (1981, p. 3) defined a middle school as a school "of some three to five years between the elementary and high school focused on the educational needs of students in these in-between years and designed to promote continuous educational progress for all concerned."

If this definition holds then the 7-9 school from which the sample was taken probably qualifies and grade 9 should have been included in the sample. Many school systems have 7-9 middle level schools which are as representative or more representative of the middle school concept as middle schools themselves. I feel the comparison for the upper level is just as important as that for the lower level of grade organization of middle schools and should have been included in this study.

Possibly since grade 6 was included in the sample and was part of the elementary school for the sample group, then not only grade 9 which was in the middle level school, but grade 10 also should have been included in Baldwin's research. If Baldwin is talking about ages 11-14 (Piaget) or 10-12 (Epstein) then all grades that include these ages should have been included in the research. Also, if Baldwin is looking for the "best" grade arrangement for students within the pre- and early adolescent age span, then shouldn't all the possibilities for grade level organization of middle schools be included to make the research truly effective?

I wonder if perhaps the school system that was sampled had already decided to reorganize, placing grade 9 in the high school and were debating the placement of grade 6 and possibly grade 5 in the middle school.

Additional Research

Besides the addition of grade 9 in Baldwin's research or grades 9 and 10, I would like to see his research format duplicated with a K-5, 6-8, 9-12 school system, again including grades 5 through 9. It would be interesting to see if the results held true not only for grades 8 and 9, but also grades 5-6, 6-7, and 7-8 within this organization pattern also. It would be interesting to see if perceptual styles were affected by grade organization.*

To get a true picture of any correlation between perceptual styles and grade organization many school systems need to be sampled. Gordon, Johnston, Markle, and Strahan (1980) stated that practitioners in the field wanted to know what "works with students" and "how to do it;" and, that "theoretical research, especially in the area of psychological and physiological development and its impact upon learning, may be useful." Baldwin's study on perceptual styles and grade level organization is a good start in answering some of the crucial questions dealing with middle level education and opens up the possibilities for additional research along similar lines.

*Editor's Note: See Jones & Thornburg (p. 110 of this volume) for a discussion of the relationship between age and school grade organization on self esteem.

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A STUDY OF THE ENGAGEMENT OF MIDDLE SCHOOL AGED CHILDREN DURING MATHEMATICS INSTRUCTION

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One of the goals of research on teaching is to identify variables that characterized the effective teacher's classroom. During the 1970's, one of the most important variables to emerge was student time-on-task, the concept that student engagement with course content is important to student achievement. However, it requires more than just additional class time to increase student achievement. Before time-on-task can become a useful topic for middle school teachers, greater understanding must be gained about the effective use of time. For example, are there different rates of engagement for teacher led activities as opposed to student seatwork? How much time is spent on non-instructional activities? What are the specific rates of various student on-task and off-task behavior?

Thus, this research project investigated student engagement across instructional activities, for middle school aged children, in fifth and seventh grade mathematics classrooms. Since teachers have control over activities in which students engage, an investigation of the rate of engagement of activity would be very useful. For if teachers are to effectively manipulate the time available for instruction, they must be aware of how time is presently being spent. In this way teachers can reinforce the on-task behaviors of students and extinguish off-task behaviors. It would also be helpful for teachers to know if the rate of student engagement within classroom activities differs by grade level or teacher.

The relationship of time to student learning has been a topic of considerable research interest. This focus on time has been influenced by Carroll (1963) and his model of school learning. Carroll proposed that, given sufficient time and perseverance, a student will learn. More currently Bloom (1976) found consistent correlations in studies he reviewed between student attention and student achievement ranging from .40 to .52 depending on the unit of analysis--individual students or the class as a whole. Stallings and Kaskowitz (1974), in a study of student attention, coded students only when they were obviously working on reading or math. Correlations of .30 or .60 were found between student engagement and student achievement. Additional studies have generally demonstrated that students who remain on-task during instruction have higher achievement than students who are off-task (Perkins, 1976; Good and Beckerman, 1978; Fisher, Berliner, Filby, Marliane, Cahen, Dishaw, 1981). As a result of these findings, researchers have been urged to go beyond the notion of academic learning and achievement and to examine in more detail the manipulative nature of time by observing specific student behaviors and activities (Stallings, 1980; Karweit and Slavin, 1981).

Research Questions

Answers to the following questions were sought in this study:

1. How much time is allotted for instruction, how much of the allotted time do students spend on-task, and how much variation is there in student time-on-task by grade and teacher?
2. What are the rates of specific student on-task and off-task behaviors?

Method

The sample for this study included all of the mathematics classes in grades five and seven within a small midwestern school district. The fifth grade consisted of 12 classes and the seventh grade of 7 classes.

Six students from each class were randomly selected for participation in the study. Since one student in the seventh grade had to be eliminated because of insufficient observation data, the project included 113 students. No mainstreamed student was included in the study. Also, the identity of the students being observed was never divulged to the teacher.

A committee of eight teachers, seven administrators, and two faculty members from Southern Illinois University reviewed and set the parameters under which this study could take place. Upon the recommendation of this committee, all district math teachers at the fifth and seventh grade levels agreed to cooperate, and data were collected in all classrooms. This total cooperation solved a major sampling problem (Berliner, 1976); it is quite typical for studies to use only a self selected sample of teachers who are confident of their skills. These teachers might well differ on any number of ways from the less confident teacher who chose not to participate. By using all teachers, this study has a much better hope of showing a true range of student engagement.

The study was conducted during a six-week period beginning in late February and concluding in early April. Each class was observed five times, once for each day of the school week. Teachers were not aware of when the scheduled observations would occur. A student was observed for a ten second interval each minute during which the appropriate engaged/non-engaged behavior and classroom activity was recorded by a trained observer.

An observation form, based on the work of Cobb (1972) and Kounin and Doyle (1975), was developed and utilized to record student engaged/non-engaged behaviors. Engaged behaviors included the following: (1) attending (pays attention or listens to instruction); (2) writing; (3) reading; (4) raised hand; (5) answers questions; (6) asks questions; and (7) talks to peers (regarding subject matter). Non-engaged behaviors included: (8) walking; (9) playing; (10) talking to teacher (not regarding subject matter); (11) talking to peers (not regarding subject matter); (12) waits/stalled; (13) non-cooperative; (14) not attending (not paying attention or listening to instruction); and (15) outside distraction (announcement over intercom, student called out of class, etc.).

In addition, the observers also recorded the classroom activity occurring simultaneously with the observed engaged/non-engaged behavior. These activities included: teacher led (TL), seatwork (SW), small group (SG), organizational activities (OA) (taking roll, announcements, etc.), and activities other than mathematics (OT) that occurred during the scheduled class time (reading a library book, studying another subject, etc.). The method used to compute interrater reliability was developed by Shure (1963). The computation is based upon the following relationship:

$$\text{Percentage of Critical Agreement} = \frac{\text{Number of Rater Agreements} \times \text{Number of Raters}}{\text{Total Number of Tally Marks.}}$$

Between observer reliability was .81 for student behavior and .92 on instructional activity.

Results

Data relevant to the two research questions follow:

1. How much time is allotted for instruction, how much of the time allotted do students spend on-task, and how much variation is there in student time on-task by grade and teacher?

From teacher's schedules of mathematics classes, the time allotted by each teacher for instruction was collected. Table 1 indicates that an average of 43 minutes was allotted for instruction each day. When classes were observed and timed, it was found that classes actually lasted for an average of 39 minutes. The deviations between allotted time and actual time were for the most part due to late starts and early ending of classes.

Table 1 also reports how many minutes were actually spent on mathematics once the teacher started instruction. This figure was arrived at by subtracting, from the actual length of the class, the number of minutes spent on taking attendance or talking to a student before instruction began.

The most informative data is the rate of student engagement. It was found that students were engaged with course content for an average of 29 minutes each class period. The range of scores was from 22-36 minutes per period for fifth grade students and 26-33 minutes per period for students in seventh grade. Therefore, the level of engagement for teachers' classrooms varied by as much as 13 minutes per day, with the lowest classroom spending about half the allotted class time of 43 minutes instructionally engaged. Over the course of a year, the difference in engagement between the lowest and highest classroom is 39 hours or a difference of 61 full school days of mathematics instruction.

2. What are the rates of specific student on-task and off-task behaviors?

Table 2 indicates that students exhibited engaged behavior 73 percent of the time in mathematics classes. The activities that occurred most often were

Table 1
Average Amount of Time Allotted For Instruction
Actual Rate of Engagement and Range of Engaged Time

Grade	Teacher Al- lotted Time --Minutes Per Day	Actual Time Spent -- Minutes Per Day	Time Spent On Instruc- tional Ac- tivities-- Minutes Per Day	Student Engaged Time-- Minutes Per Day	Range of En- gaged Time by Teachers' Classrooms-- Minutes Per Day	Range of En- gaged Time by Teachers' Classrooms-- Minutes Per Week	Range of En- gaged Time by Teachers' Classrooms-- Hours Per Year	Hours Diff. Per Year Between Highest & Lowest En- gaged Teachers' Classrooms
5	43	39	38	29	22-35	111-177	67-106	39
7	42	39	38	28	26-33	132-166	79-100	21
TOTAL	43	39	38	29	22-35	111-177	67-106	39

Table 2
Percentage of Engaged Student Behavior
Within Classroom Activities During
Mathematics Class

		ENGAGED BEHAVIOR								NON-ENGAGED BEHAVIOR								
		Attending	Writing	Reading	Raised Hand	Answers Questions	Asks Questions	Talks to Peers	TOTAL	Walking	Playing	Talks to Teacher	Talks to Peers	Waits/Stalled	Non-Cooperation	Not Attending	Outside Distraction	TOTAL
Grand Means	TL	20.32	5.13	5.10	2.25	1.03	.24	.26	34.32	.36	.52	.14	1.03	2.25	.04	5.28	.07	9.69
	SW	4.41	21.46	7.14	.36	.32	.99	1.24	35.80	1.59	.34	.08	1.80	2.99	.02	4.66	.17	11.64
	SG	.07	.03	.05	.00	.01	.01	.05	.20	.01	.01	.00	.01	.00	.00	.01	.00	.03
	OA	1.68	.34	.35	.06	.03	.02	.02	2.49	.32	.05	.01	.32	1.94	.00	.55	.03	1.21
	OT	.02	.10	.21	.00	.00	.00	.01	.33	.02	.01	.03	.14	.25	.00	.14	.03	.61
	TOTAL	26.50	27.06	12.85	2.67	1.39	1.16	1.58	73.14	2.30	.93	.26	3.30	7.44	.06	10.64	.30	25.18
5th Grade	TL	16.51	4.26	2.47	2.02	.94	.19	.34	26.63	.35	.19	.03	.78	1.95	.02	3.88	.03	7.23
	SW	5.47	27.11	9.44	.45	.34	1.35	1.52	44.68	2.18	.38	.16	2.24	3.09	.01	6.11	.15	14.32
	SG	.13	.06	.10	.00	.01	.01	.09	.40	.01	.01	.00	.01	.00	.00	.02	.00	.05
	OA	1.17	.42	.31	.06	.03	.03	.03	2.05	.41	.01	.02	.26	1.26	.00	.40	.00	2.36
	OT	.04	.14	.27	.00	.00	.00	.01	.46	.04	.01	.00	.03	.03	.01	.19	.06	.37
	TOTAL	23.32	31.99	11.59	2.53	1.22	1.58	1.99	74.22	2.99	.60	.21	3.32	6.33	.04	10.60	.24	24.33
7th Grade	TL	24.13	6.00	7.73	2.47	1.22	.29	.17	42.00	.36	.35	.25	1.27	2.57	.05	6.68	.11	12.14
	SW	3.34	15.30	5.34	.26	.29	.43	.96	26.92	1.00	.29	.00	1.36	2.39	.02	3.21	.19	8.96
	SG	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	OA	2.19	.26	.39	.06	.02	.00	.00	2.92	.23	.09	.00	.37	2.61	.00	.70	.05	4.05
	OT	.00	.06	.14	.00	.00	.00	.00	.20	.00	.00	.05	.25	.46	.00	.08	.00	.84
	TOTAL	29.56	22.12	14.10	2.79	1.53	.71	1.13	72.04	1.59	1.23	.30	3.25	8.53	.07	10.67	.35	25.99

seatwork (35.8% engaged/11.64% non-engaged) and teacher led (34.32% engaged/9.69% non-engaged). Therefore, students were engaged during seatwork approximately 71% of the time and were engaged during teacher led activities approximately 67% of the time.

Table 2 also reports the student behaviors that occurred most in mathematics classes. The major engaged student behaviors are writing (27.06%), attending (26.5%), and reading (12.85%). In nearly all cases, the writing and reading behaviors occurred during seatwork as students worked on assigned mathematics problems. The primary non-engaged behaviors are not attending (10.64%) and waits/stalled (7.44%). In addition, the behaviors that occurred most often during seatwork and teacher led activities are writing (21.46%) and attending (20.32%) respectively.

In addition, Table 2 indicates that engaged student behavior decreases slightly from grades five to seven (5th = 74.22%; 7th = 72.04%). Furthermore, there appears to be a dramatic increase in teacher led activities from fifth grade (26.63% engaged/7.23% non-engaged) to seventh grade (42.0% engaged/12.14% non-engaged). On the other hand, there is a decrease in the amount of seatwork (5th = 44.68% engaged/14.32% non-engaged; 7th = 26.92% engaged/8.96% non-engaged). It is interesting to note also that as the teacher led activities increase and seatwork decreases, the total engaged student behavior decreases slightly.

Engaged writing decreases from 31.99 percent in grade five to 22.12 percent in grade seven. On the other hand, attending increases between grades five and seven (5th = 23.32%; 7th = 29.57%). These results seem to parallel the increase in teacher led activities and the coinciding decrease in seatwork from grades five to seven. Additionally, waits/stalled increases throughout the grades (5th = 5.32%; 7th = 8.53%).

Summary and Discussion

The purpose of this study was to examine engaged student behaviors within various activities in mathematics classes. Five general findings emerged from this research. First, the engagement rate of students varied greatly among teachers' classrooms. With the least engaged classes being on-task only half of the total allotted time, there is little doubt that some teachers could benefit from inservice education. This inservice might well focus on the reinforcement of on-task behavior, and the recognition and extinguishing of off-task behaviors. One critical factor in this process may be the maintenance of a continuous instructional signal, a central notion in the work of Kounin and Doyle (1975). Students need to receive a continuous signal as to what is expected of them if they are to remain on-task.

Second, the dominant classroom activity during mathematics is seatwork, which corroborates findings by Rosenshine (1980) in the Beginning Teacher Evaluation Study (BTES). Teacher led activities account for the second largest block of time. However, an examination of the data by grades indicates that in grade five seatwork is the overall dominant classroom activity. In the seventh grade, teacher led activities dominate. These data are supported

by the findings of McIntyre and Norris (1980) which indicate that teacher led activities seem to dominate the secondary grades. The BTES only examined the second and fifth grades and, therefore, did not detect any change or difference in the utilization of activities between fifth and seventh grade mathematics classes. Future studies should examine this apparent phenomena more closely and, subsequently, the types of activities that generate the most engaged time for elementary and secondary students in mathematics classes.

Third, writing, attending (paying attention or listening to the instruction), and reading are the predominant engaged student behaviors in mathematics classes. It appears that writing is more dominant whenever the major activity is seatwork, while attending is more dominant when the major activity is being led by the teacher. The amount of time devoted to reading remains fairly constant no matter what the classroom activity.

Fourth, this research suggests that students are stalled or waiting for nearly the same percentage of time that they are verbally interacting or attempting to interact in class. This is particularly disconcerting since Wyne (1981) reports that instructional settings where students interact often with the teacher and where waiting time is reduced or eliminated produce significantly improved academic performance. Thus, it appears that teachers could benefit from monitoring the quality and quantity of their student-teacher interactions and the amount of waits/stalled time occurring in their mathematics classes.

Finally, perhaps the most interesting and, at the same time, most perplexing finding of this study is that as one progresses from grades five through seven, an increase in teacher led activities and decrease in seatwork is paralleled by a slight decrease in engaged student time in mathematics classrooms. This possible relationship poses several questions for future research. First, does a relationship actually exist? Since this study is solely descriptive, it can only hint at the possibility that a relationship exists between grade level, instructional activity, and engaged time. An experimental study should be conducted to validate this relationship. Recent research indicating that direct instruction, which includes teacher led activities, is positively related to student achievement (Anderson, Evertson and Brophy, 1978; Good, 1979) supports the need for further analysis since this study implies that as teacher led activities increase, engaged student time decreases. Second, is the decline in engaged student time a function of the grade level or age group? For example, is the rate of student engagement in mathematics less in seventh grade than in fifth grade? Does the approach to instruction differ enough at the two grade levels to effect engaged student time? Since the vast majority of studies examining relationships between time-on-task, instructional activities, and/or achievement have been at the elementary level, such research should be continued through the middle school and secondary grades to determine if similar relationships exist with older children/young adults.

In conclusion, results of this study contribute to the knowledge of what is occurring in classrooms by providing information about the kinds of student behaviors and classroom activities and how they are interrelated with engaged student time in mathematics classes. The growing body of knowledge concerning the use of time, activities, and student behaviors should prove useful in teacher training at both the pre and inservice levels.

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A PRACTITIONER'S VIEW OF STUDENT ENGAGEMENT

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For those of us who make our living in a classroom, reading the results of research conducted in classrooms has the compelling quality of stark realism. There is not a teacher alive who cannot recall days when the presence of a researcher with a sharp pencil poised to record the chaos would have been only the final indignity. Between the carefully ruled lines of percentages, totals and grade means, teachers see the teeming life of the classroom where the mix of individuals, the day of the week or the barometric pressure may create an entirely unexpected dynamic. Perhaps it is because the classroom is such an imperfect research laboratory where scientific asepsis is so difficult to achieve that research based on classroom observation is so necessary. While teachers may always fervently hope that the data will be gathered in someone else's classroom, there is nevertheless a recognition of our collective need to see ourselves from an objective perspective.

With this caveat in mind, practitioners should read this report of research as an extremely valuable and timely effort to extend the frontier of our understanding in an area basic to classroom instruction. To attempt to ascertain the level at which students participate in instruction is to evaluate that which the public views as our principal task. It is no secret that there is increasing pressure on schools to align more closely the standards by which education is judged to those which govern commerce. We are told that the public wants tangible results, levels of skill development which can be equated in straightforward terms with salaries, materials and utilities cost figures. The concept of student engagement excised from other activities and viewed alone is necessary if we are to be able to explain the classroom in terms familiar to those to whom we must appeal for support. Time utilization studies have a long history in industrial research and have frequently resulted in improvements in working conditions for many employees, largely because they provided dramatic contrasts between the way workers and management perceived the work day. Such is the case with this study. Although one might question the extent to which a study of 113 fifth and seventh graders in a small school district can be generalized, nevertheless, the findings were extremely interesting.

The Nature of the Learner

It was not the intent of this study to examine the subjects in the sample in any way except to record their overt classroom activity and to compile the results. Fortunately, this was accomplished with such thoroughness that the student of middle-level education has been provided with a rich supply of information to mine for implications beyond those suggested in the study. This should be the benefit of any good piece of research, and this study is no exception to that principle.

For those familiar with the brain growth periodization studies of Herman Epstein and Conrad Toepfer, these findings which contrast the activities of fifth and seventh graders are particularly fascinating. The behavior patterns

which anyone familiar with these two age groups could observe have been the subject of intensive laboratory research corroborated by studies in classrooms with the result that a consensus seems to be emerging concerning the basis for transescent learning patterns. Epstein and Toepfer suggest that not only was Piaget correct in his assumptions about periods of growth in learning, but this periodization continues through transescence and adolescence. To relate these findings to those of the study under consideration it is necessary to realize that Epstein and Toepfer report that their research suggests that fifth graders are at the beginning of a period of brain growth while seventh graders are entering a plateau period during which there is little brain growth with a concomitant drop in the ability to gain new intellectual skills.

This study reports four significant findings with respect to differences between fifth and seventh graders: the large increase in teacher-led activities of 15.37% engaged and 4.91% non-engaged, an increase in time spent stalled or waiting of 3.21%, a sharp decrease in seat work in seventh grade of 17.76% engaged and 5.36% non-engaged and a slight overall decrease in engaged time in the seventh grade of 2.18%. These findings take on additional significance if they are considered within the framework of the brain growth studies. Remembering that growth and plateau periods can be sharply distinguished only when considering large populations, nevertheless, in any given fifth grade classroom the average student will be in or nearing a period in his growth where learning at new levels of complexity is more easily facilitated. In contrast, the average seventh grader has the double disadvantage of further advancement into preadolescence with all the attendant symptoms of endocrinological imbalance, skeletal change and potential psychological disharmony as well as the onset of a plateau period during which learning more complex cognitive skills may be impossible and meeting previous standards of achievement extremely frustrating. The study did not and could not report on the content of the material presented to the sample of students who were observed. We do not know whether the fifth graders were challenged too little and the seventh graders too much; there is a good deal of evidence to suggest, however, that these factors could influence the results of the study.

The Learner in the Classroom

In order to consider fairly the finding in this study, a word needs to be said about the nature of classrooms. Despite what teachers, parents or researchers may wish them to be, classrooms are, above all and emphatically, social settings. They are the arenas in which, for the largest part of the day during the most of the year, young people are socialized by their peers, and to a lesser extent, by their teachers. Nor should this fact be regarded as regrettable. Instead, wise educators realize the potential of the classroom for learnings beyond and beside those in the curriculum guide. Classrooms are one of the few locations where a child may, depending on the wisdom of his teachers, discover who he is and enjoy the process of discovery. But this process takes time and, with our eyes fixed on the clock, we may fail to recognize that the child's developmental clock should, in many cases, take priority over bells that ring and schedules that insist.

From a practical point of view, the findings in this study could have been affected by the organizational patterns housing these fifth and seventh grade classrooms. If the fifth grade was, as is often the case, self-contained in the elementary school fashion where one teacher teaches most of the subjects

to one group of students all day, and the seventh grade was, again as is most often the case, departmentalized with a math teacher meeting five or six classes of different students during the day, the requirement for the utilization of time within the 42-43 minutes of allotted time would be considerably different. Keeping in mind the social nature of the classroom, the seventh grade math teacher may have 42 minutes of time allotted for instruction, but he must also greet an entirely new group of students each hour, attend to the disappearance of pencils, the re-appearance of books, the presence or absence of home work, the new student and the student who was absent yesterday as well as take roll every hour, repeat general announcements affecting his classes and generally settle everyone into seats, all before beginning instruction. Even when the figures reported in Table #1 as actual time spent represent a three to four minute deviation from time allotted on teachers' schedules, the fact that there is only an average of one minute spent on any of the above activities is difficult to contemplate, unless both fifth and seventh grade are self-contained with students who have most likely been together in this classroom for most of the day. In this case the teacher can begin instruction with very little preamble.

Although any experienced teacher will agree that the student who is staring at you with his eyes open may appear to be engaged in the subject matter, but may indeed be attending to subjects quite apart from math. To say, however, that student engagement may not be capable of precise definition is not to deny the usefulness and importance of the concept in the design of classrooms that suit learners needs. Clearly, the fifth grade students in the sample who were engaged all but three minutes of the length of the instruction session and the seventh grade students whose attention wandered for only five minutes were either highly motivated young people or were taught by a skilled teacher, or a happy combination of both. Equally true is the fact that a student who is engaged only half of the instruction time is being permitted to waste valuable time.

There is a high probability that most experienced middle-level practitioners would regard one finding never mentioned in the text as a most salient point: in the left-hand vertical column in Table #2 which lists classroom activities, it is recorded that SG, or small group activity, was used in the fifth grade less than one percent of the time and in the seventh grade not at all. The study finds it significant that students are stalled or waiting for almost as long as they are interacting in class; it is hardly surprising in a classroom structure which relies increasingly heavily on teacher-led activities. It has already been suggested that seventh grade students are typically not operating at peak learning capacity which forces teachers who have not investigated other strategies to adopt a domineering role and spend their time goading their reluctant charges to perform. It is disconcerting that the teachers seemingly did not recognize the efficacy of small group activity and at least occasionally vary the routine. Small groups allow the teacher to place the responsibility for learning where it belongs, with the students, but in a setting where he can share what he knows, learn what he does not know from his peers and, best of all, communicate without sanctions. Waiting time is minimized because, when questions arise, the teacher is able to reach a few groups much more rapidly than individual students. Most important, this strategy recognizes that socialization may not only accompany but enhance learning.

Questions for Research and Practice

Having raised the issue of group work, it is only reasonable to suggest that it be tested empirically in an effort to establish its claims in this context. Observation of students in small groups is more difficult than when they are isolated since the sharp distinctions between different types of behavior may tend to blur, but the effort would be laudable. Some ideas concerning the possible relationship between grade level, performance, and instructional activity have already been advanced and further research in this area would be welcome, particularly at the middle school or early secondary level.

As schools move more and more into interdisciplinary teaching modes made possible by flexible schedules, there should open up a wealth of research opportunities to investigate the concept of engaged time with students involved in studies that cross over subject matter boundaries. Rates of engagement as well as comparisons of skill development would be extremely important guides to educators who recognize that schooling must become more life-rational and yet who must deal with those who hold on to traditional perceptions of school organization.

The suggestions made by this study relating to in-service instruction for teachers with regard to on and off-task behavior are well taken. Since the dominant mode of instruction remains teacher-centered instead of student-centered, our teachers are ill-equipped if they are not provided with the skills necessary to control students in classrooms. While the continuous signal concept may sound somewhat mystical, all skilled teachers emit one, some even when they are not in a classroom. Nevertheless, it is not chimerical to work and plan for the time when that continuous signal is transferred from the teacher to the student. There are schools, and programs within schools, where interest in learning has ignited the students as a group and they have persevered. Under careful guidance, they have been allowed to discover what they needed to know to accomplish their goals. In the end, this is all we can require of education.

This study recognizes the primacy of learning undertaken in the classroom setting. The study is not entirely convincing with regard to the implication of engaged time as "good" and non-engaged time as "bad", since nothing is known about the content of those times, however, it is clear that the authors are aware that there are no easy explanations for what occurs in classrooms, few clear descriptions, and virtually no all-purpose answers. A student's learning is measured, not in minutes, but in lifetimes and we attempt to use a minute to represent a lifetime only at our peril. What is needed is an effort to break away from the confines of the scientific paradigm sufficiently to look at classrooms as whole, operating units. The advent of adequate scholarship in the area of naturalistic inquiry coincides with middle-level education's need for evaluation that focuses on the whole of human experience in the setting, as well as the particular. As practitioners we eagerly await these efforts.

MIDDLE GRADE PRINCIPALS AND JOB STRESS

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Introduction

Stress and tension are a part of our everyday life. The strain of trying to cope with the anxiety and pressures associated with our personal and professional existence is demanding. Although an excessive amount of stress may be debilitating and lead to serious problems, many individuals are stimulated by pressures associated with a healthy dose of stress to lead more productive lives.

School administrators experience varying degrees of stress and tension as they interact with students, parents and colleagues. One writer has said:

Educational leaders ... are faced with more pressure, more aggression, more change, and more conflict than in any other decade in the twentieth century. More is crammed into an administrator's day than ever before, thanks to computers, intercoms, dictaphones, and other "time saving" devices which have measurably increased the pace of lives.¹

Job-related stress is receiving increased attention in educational literature. School administrators lead hectic lives and even the best organized principal is bombarded daily with unscheduled meetings, frequent interruptions and petty annoyances. Although the amount of stress generated by events of the day will vary with the individual, stress is a constant in the life of a professional.

Empirical investigations dealing with stress and tension are abundant. Current research data regarding stress strongly suggests the following conclusions: (1) stress exists in the lives of all people and to a greater degree in people who are in people-related positions, (2) the same positions may create different amounts of stress in different people, (3) an individual's health may be negatively affected due to excessive stress or the inability to cope with stress, and (4) little research has been done on the perceptions that educational administrators have on stress related to their jobs.²

Definition of Stress

Stress is difficult to define. In its simplest form, stress may be viewed as any action or situation that places physical or

psychological demands on people. Holmes and Rahe define stress as the intensity and length of time needed to adjust to life events.³ They reason that stress increases as the intensity of the event becomes greater and the adjustment time lengthens. Hans Selye, internationally recognized authority and pioneer researcher on stress, concludes that stress is a nonspecific response of the body to any type of demand made of it.⁴ In this instance, nonspecific means that the response pattern is always biochemically the same regardless of the nature of the stressor. Consequently, whether an activity or situation is pleasant or unpleasant, the same biochemical reaction takes place in the body.

Typically, stress is associated with terms such as anxiety, frustration, strain, conflict and tension. Although these terms are usually thought of as negative forces, stress can be a beneficial and positive catalyst in our lives. Selye distinguishes between the stress that is positive in our life and that which is negative. Eustress, or positive stress, is that factor necessary for one to perform well, particularly under pressure. The good feelings experienced by an individual who is winning are positive forces that foster a sense of achievement and encourage exceptional performance in our lives. Distress, or negative stress, is experienced by an individual who fails to achieve. Feelings of insecurity, helplessness, or desperation are associated with negative stress.

Purpose of the Study

Tennessee school administrators are exposed to many of the same job-related pressures as their professional colleagues in other states. Individually, as well as collectively, school officials and professional groups from across the state have talked about stress, discussed its effects on a person's mental and physical well-being and identified steps to alleviate its effects. However, there was a lack of research data regarding job-related stress among Tennessee school personnel and this investigation sought to obtain stress information from practicing administrators. More specifically, the purposes of this study were three-fold: (1) to identify the major causes of administrative stress among Tennessee school personnel; (2) to determine how school administrators coped with the job stress they experienced; and (3) to recommend specific strategies and/or techniques which could be implemented by school personnel to alleviate job stress.

The Stress Cycle

To aid in our understanding of stress, Swent and Gmelch propose a four stage stress cycle.⁵ Their model is based on the work of Kahn whose paradigm adapted itself to both individual and organizational stress.⁶ The stress cycle begins with a set of demands such as a written report, a telephone call, an irate parent or a meeting (Stage 1).

Whether a particular demand generates stress or not is dependent on the individual's perception of that event (Stage II). If the individual does not feel he has the mental or physical ability to meet adequately the demand, a discrepancy exists and the demand is perceived as a stressor. Therefore, a series of unexpected parent telephone calls may generate stress for one principal, but the same calls will not be perceived as a stressor for another principal.

The individual responds to the stress generated by the discrepancy and the coping process begins (Stage III). Biochemical changes, such as adrenal secretion, increased muscle tension and changes in heart rate, all signal that the body is preparing to meet the crisis situation in what is sometimes called the "fight or flight" syndrome. The individual either ignores, flees, combats or alleviates the stressor. Although each of us experiences the same biochemical response, past experience and available resources influence, in large measure, the behavioral and psychological reaction to the stressor. Consequences is the final stage in the stress cycle (Stage IV). This stage differs significantly from responses in that the long range effects of stress are taken into account. The individual who has not been able to cope effectively with the job-related stress may experience various consequences such as mental or physical illness.

This research investigation focused primarily on the second stage of the stress cycle by identifying middle grade principals' perceptions of the demands or stressors placed on them by the school environment. An administrator has an important responsibility to create an organizational environment in which all people can function effectively. In this regard, educational administrators must be concerned about stress and health - both theirs and others for whom they are responsible. The first steps in managing stress are to acknowledge that a problem exist and to identify the causal factors associated with excessive job stress and tension.

Research Methodology

Instrumentation

The research instrument used in this study was supplied by Boyd Swent and Walter Gmelch. They developed the instrument following a search of the stress literature and a review of stress information obtained from practicing school administrators. Swent and Gmelch identified specific stressors which were categorized into five factors with seven items in each factor (Appendix A). The next step was to put the stressors into the form of questions that would lend themselves to a five point summated Likert-type scale. Their stress questionnaire was evaluated by selected practitioners for validity and clarity, field-tested with a group of 25 elementary and secondary administrators, revised and field-tested a second time with a group of 20 administrators. The final questionnaire was composed of 35 job-related situations

(Appendix B). Respondents were asked to rate on a five point scale (rarely bothers me to bothers me) the amount of stress created by each situation. An open-ended question allowed administrators the opportunity to identify methods they found to be helpful in handling the tension and pressures of their job.

Data Collection and Analysis

Using the Tennessee Directory of Schools, more than 90 percent (N=1200) of the state's principals, superintendents and supervisors of instruction were mailed a stress questionnaire. Over 50 percent (N=663) of those queried completed the stress instrument. Data were received from every school system (N=145) in the state except for Metro Nashville which chose not to participate in the study. The sample included 258 elementary principals, 92 middle grade principals and 121 secondary principals, 61 superintendents and 94 supervisors of instruction. Also, 37 other school officials completed questionnaires; this group was composed of K-12 principals and Title I directors.

The data were computer analyzed at Tennessee Technological University using the Statistical Package for the Social Sciences. A mean score was computed for each of the 35 job-related situations, and a chi square test of significance was used to determine if there were significant differences in the responses of the administrators.

A second data analysis was completed to obtain the information presented in this paper. The data for all administrative groups was reported in a Tennessee School Boards Association publication, Stress Demands on Educational Administrators.⁷ The major findings regarding middle grade principals, which are included in this paper, have not been reported elsewhere.

Sources of Administrative Stress

As previously mentioned, there is little research which has been completed on the perceptions that educational administrators have on stress related to their jobs.⁸ However, no organization is immune to stress and much of the research data which has been reported reveals that the major causes of job stress among school administrators are role conflict⁹; work overload¹⁰; inadequate compensation^{11,12}; interpersonal conflict with parents, teachers and students^{13,14}; and increased administrative responsibility^{15,16}.

Swent and Gmelch surveyed over 1800 Oregon school administrators to identify those areas of administration which produced the greatest amount of job stress. The ten most stressful items for the Oregon administrators were the following: (1) complying with state, federal and organizational rules and policies; (2) feeling that meetings take up too much time; (3) trying to complete reports and other paper work on time; (4) trying to gain public approval and/or financial support

for school programs; (5) trying to resolve parent school conflicts; (6) evaluating staff members performance; (7) having to make decisions that affect the lives of individual people that I know; (8) feeling that I have too heavy a work load, one that I cannot possibly finish during the normal workday; (9) imposing excessively high standards on myself; (10) being interrupted frequently by telephone calls.¹⁷

Wilson, in his study of New Jersey high school principals, sought to identify the primary attitudes and habits that distinguished high tension principals and low tension principals. Although the personal health and living habits of the high tension principals were generally not as good as low tension principals, the major differences between the two groups were related more to administrative attitudes, opinions, and perceptions. High tension principals indicated they worked too hard, confronted excessive job demands, experienced feelings of insecurity and emotional strain, and generally, did not accomplish as much as they should have.¹⁸

Vetter discussed the job tension experienced in the principalship as a result of role pressure. Psychological stress, including lower job satisfaction and dysfunctional behavior, often occurs when principals experience either role conflict where differences exists among groups regarding appropriate principalship behavior; or role overload where an administrator realizes there is insufficient time and energy to do all that is expected; or role competence where a leader acknowledges the lack of sufficient expertise or leadership flexibility to meet particular demands. Vetter argues that a proactive managerial approach to the problem of role pressure leads to better job results and reduced role stress.¹⁹

Vanderpool interviewed numerous principals and superintendents in an effort to determine major sources of administrative stress. He reported that both groups of school leaders indicated that the changing role of the school administrator was a primary source of job-related stress. Increased emphasis on participative management and shared decision making necessitates that an administrator approach his job with a different psychological set. Trying to find the proper balance between the need to make quick decisions and the need to gather input from those affected by the decision can produce stress and job tension. To survive in today's educational environments, however, requires that school leaders change from a position of unilateral decision making and feeling comfortable with a great deal of unquestioned power to actively working with subordinates to reach decisions. Other administrative stressors identified by the school leaders included implementation of special education legislation; decision making with regard to teacher layoffs, or reduction in force; increased administrative responsibility due to the growth of societal expectations regarding the role of schools; and the personal and professional anguish experienced by school administrators as they dealt with the realities of their own lives.²⁰

In a major stress study, Koff, Laffey, Olson and Cichon surveyed school administrators from across the nation to determine the degree of stress associated with the management of elementary and secondary schools. Their findings revealed that the most stressful events for elementary and secondary administrators were forced resignations, unsatisfactory performance, preparation for a strike, refusal of teachers to follow policies, threat to job security or status, and threat to physical security. Factor analysis of their data showed that administrative events associated with administrator-teacher conflict were the most stressful. The problems associated with directing and evaluating the professional staff, including unsatisfactory performance, refusal to follow policies and forced resignations, created a high level of job tension. The researchers concluded that stress in administration is fostered by "the cumulative and constant demands of the job, the lack of time to perform in the role and respond to demands adequately, and the continual threat of the unexpected occurrence that needs immediate attention."²¹

Major Findings

Personal Data

Ninety-two middle grade school principals participated in the study. Ninety-two percent of the principals were male, and more than 65 percent were 40 years or older. Sixty-seven percent of the principals had less than 10 years of administrative experience. Fifty percent had been in their present position five years or less, while 40 percent had served in their current position between 6-15 years. More than 90 percent of the respondents indicated that they worked between 40-60 hours per week. Over 75 percent of the middle grade principals reported that their physical health was very good and 15 percent considered their general health to be only fair. Approximately 75 percent of the principals revealed that more than 70 percent of their total life stress resulted from their jobs. The percentage of life stress attributed to the job ranged from one to 100 percent. It was interesting to note that four principals felt that 100 percent of the stress in their lives resulted from on-the-job experiences. Almost 67 percent of the respondents exercised 3 hours or less during the week, while 20 percent indicated they engaged in exercise 4-6 hours per week.

Individual Stressors

Table 1 identifies the top ten stressor items. Although ranked somewhat differently, eight of the top ten stressors identified by all Tennessee school personnel were also identified by middle grade principals as creating job-related stress. Three of the ten stressors appeared in the "intrapersonal conflicts" factor. "Interpersonal relations," "administrative responsibility" and "constraints to administration" each contain two of the top ten stressors, while

"role expectations" had only one. Many principals made brief comments regarding specific items and their notations provided some insight into the nature of the individual stressors.

TABLE 1
THE TEN MOST STRESSFUL ADMINISTRATIVE TASKS
AS PERCEIVED BY MIDDLE GRADE PRINCIPALS

RANK	ITEM
1	Complying with state, federal and organizational rules and policies.
2	Trying to resolve parent/school conflicts.
3	Having to make decisions that affect the lives of individual people that I know (colleagues, staff members, students, etc.)
4	Evaluating staff members' performance.
5	Feeling that the progress on my job is not what it should or could be.
6	Feeling that I have too heavy a work load, one that I cannot possibly finish during the normal work day.
7	Trying to gain public approval and/or financial support for school programs.
8	Handling student discipline problems.
9	Feeling that I have to participate in school activities outside of the normal working hours at the expense of my personal time.
10	Imposing excessively high expectations on myself.

Compliance with rules. The number one source of stress for middle grade principals, as with other Tennessee administrators, was

compliance with state, federal and organizational rules and policies. Numerous administrators commented that the abundance of rules and regulations and bureaucratic paperwork associated with various school programs were bothersome and created job-tension.

Resolving parent-school conflicts. Building-level principals indicated that parent-school conflicts were highly stressful. Written comments revealed that mediating parent-teacher disputes, supervising the overall athletic program and resolving disagreements between the school's internal and external publics were primary sources of parent-school conflicts. It appeared that trying to make fair and equitable judgements in situations where vested interests and divergent viewpoints existed was demanding and tension-producing.

Decisions affecting colleagues. Building-level principals, the administrative group charged with major supervisory responsibilities, were troubled by having to make decisions affecting the lives of their colleagues, staff members and students. Decisions regarding teacher dismissal, student suspension and unsatisfactory teaching performance were illustrative of tension producing problem areas. This finding also correlates closely with data regarding the item, "evaluating staff members' performance," where principals indicated that evaluation produced a great deal of job-tension.

Evaluating staff. Principals indicated that personnel evaluation was a stressful event. Brief notations from building-level administrators revealed that principals felt increased pressure to evaluate thoroughly all personnel because of projected system-wide reduction in forces, and increased legal requirements regarding the documentation of marginal teaching performance and submission of plans of action for teacher improvement.

Progress on the job. Many principals felt a great deal of stress was created because progress on their job was not what it could or should be. Several comments suggested that middle grade principals have established some important personal and professional goals. However, the lack of achievement relative to these goals appeared to generate a significant amount of job-stress and tension.

Heavy work loads. Principals indicated that their work loads were too heavy and often could not be finished during the normal workday. The necessity of spending extra hours to complete required work was bothersome and led to numerous stressful personal and professional situations.

Gaining public support. Building-level principals experienced job-tension as they sought to sell the school's educational program to their local communities. While the data indicated that central office administrators felt more pressure than other administrative groups to gain financial support for the school system, building-level

administrators experienced job tension as they sought public acceptance of a particular school philosophy, instructional methodology or curriculum goals.

Handling student discipline. Principals indicated that trying to resolve differences among students, as well as deal with general student discipline problems, was tension producing. Student conflicts seemed to result because many of the educational programs were not responsive to student needs and interests.

Participation in school activities. Principals felt that involvement in school activities outside of normal working hours, and at the expense of their personal time, was stressful. Administrators revealed that they were expected to give an inordinate amount of their time to supervise activities which occurred after the school day.

High self-expectations. The data suggested that middle grade principals imposed high expectations on themselves. However, as these administrators reacted to one or all of the previously identified stressors, they found that an inordinate amount of time and energy were being diverted from established goals and priorities. Comments from principals indicated that they experienced job stress because they were not achieving the quantity nor quality of work deemed appropriate.

Coping Techniques Used by Middle Grade Principals

The final stage in the stress cycle involves the examination of techniques or strategies useful in creatively coping with stress. School administrators were asked to identify specific techniques or strategies that they used to overcome job-related stress and tension. Approximately 91 percent of the middle grade principals responded to this question. The middle grade principals' data regarding coping techniques did not differ significantly from that reported for all administrative groups.

A variety of approaches were employed by administrators to alleviate stress arising from their jobs. The vast majority of middle grade principals listed more than one way in which they coped with job-related stress. Realistically, there is probably no one way that an individual finds successful on every occasion to reduce stress.

By using a categorical scheme proposed by Swent and Gmelch, coping techniques were placed under one of three headings: physiological, cognitive, and acquisition of interpersonal and management skills.²² Physiological activities included physical work or exercise, individual attempts to separate oneself from the work environment, and techniques specifically designed as relaxation activities. More than 31 percent of the respondents listed physiological type activities, such as jogging, racquetball, tennis, golf and walking, as primary sources

of stress relief. Approximately 41 percent indicated that hobbies, manual labor, farming, camping and vacations were positive ways to relieve stress.

Cognitive techniques relative to stress reduction included the development of positive attitudes and supportive philosophies of life. Sharing problems with faculties, setting realistic job targets, professional reading and writing, taking a few minutes during the day to relax, and leaving problems at school were typical responses in this category. Many remarked that personal prayer and practicing the Christian ethic were important ways to overcome their daily job frustrations.

Acquisition of interpersonal and management skills focused on one's efforts to increase job effectiveness. There were relatively few coping techniques identified in this category. The major strategies which were mentioned included developing good human relations, collaborative problem solving with faculty, and improving management type skills such as time management and conflict management.

Implications for General Coping Strategies

The findings reported in this study of Tennessee middle grade principals indicate that they are experiencing some degree of job-related stress. Responses from the school officials suggest that there are no simple solutions to alleviating the stress they feel.

To facilitate administrative understanding of job stress, this study has examined bothersome situations which cause excessive stress among school personnel and has identified successful strategies and techniques used by administrators to cope with the pressures of their jobs. A review of the data leads to the following implications regarding the development of successful methods of coping with job stress.

Management activities. As noted earlier, two of the top ten stressors appeared in the factor associated with administrative constraints. One stressor related to the general idea of control over time, i.e., too heavy a work load. The effective use and control of time is crucial for successful administration. Odiorne suggests that the achievement of organizational goals is enhanced when individuals effectively manage and control their activities.²³ Time management training can increase individual and organizational productivity, which may in turn remove the stress produced by time pressures. Also, it has been suggested that more simple management techniques, such as keeping a log of how one's time is spent or identifying time wasting habits, can help principals get a clear idea of how their time is spent. Effective administrators understand that once procedures are established to handle routine functions quickly and efficiently, more time can be spent on matters that relate to organizational direction and professional goal setting.

Compliance with rules and regulations. The most stressful factor confronting all school officials was compliance with rules and policies. There is no easy solution to the problems associated with restructuring or modifying our organizations to meet certain regulations. School administrators need to strive continually to better understand required procedures and guidelines. Also, it has been suggested that a more positive approach to compliance might relieve some of the tension related to federal and state demands. Instead of a "why do we have to" approach, administrators might look to a more positive attitude toward compliance which should act as a stress reducer.²⁴

Interpersonal relations. Administration is essentially the art of working with people. Although school administrators know full well the importance of developing and strengthening human relation skills, often the obvious is overlooked. Trust relationships must be nurtured at all levels as trust is the cement that holds people together and prevents them from being isolated individuals. Creating organizations where people are important and problems are approached humanely aids in the reduction of stress. Carl Rogers emphasizes that the positive effect of trust in human interactions can be observed by rapid intellectual development, increased emotional stability and greater self-control.²⁵ Research findings substantiate the fact that leaders who develop trust in their organizations by sharing power and maintaining open personal communication have better morale and more productive organizations.²⁵

Evaluation and decision making. School personnel indicated that evaluating staff members generated a great deal of tension and stress. Many faculty and staff feel that evaluation is a very subjective process. To aid principals and superintendents in evaluating teachers and other school personnel, the process of identifying performance criteria could be used with colleagues. Whether one is utilizing the clinical supervision approach or management by objectives, job targets help to remove a degree of evaluative subjectivity and provide opportunities for personal and professional growth.

Decision making is a crucial part of an administrator's life. The vast majority of decisions rendered in an educational organization involve people. The significant relationship between stress and organizational decision making was evidenced by the fact that the stressor, "having to make decisions affecting the lives of others," ranked third. Some of the stress associated with the decision making process could be alleviated, and perhaps the quality of decisions could be improved if opportunities were available to involve those individuals affected by organizational decisions. To develop trust and to create a supportive environment conducive to stress reduction, administrators need to work closely with teachers in identifying job targets and in building a school climate which fosters student learning and professional self-renewal.

Relaxation techniques. Anyone who has worked closely with school administrators knows that their days are demanding and hectic. Even the best organized principal is bombarded with numerous requests, unscheduled interruptions and personnel conflicts. The administrator's harried pace leaves little time for relaxation and introspection.

While the business community has acknowledged the need to help their executives understand stress, professional educators have been slow to recognize the existence of job-related stress and to provide assistance for school administrators. However, the data reported in this study strongly suggest that, individually, principals are using a variety of techniques and strategies to cope with job-related stress. Opportunities to discuss stress, to share stress-related information and to identify coping techniques need to be provided. For example, two of the major stressors for principals related to the work environment and the expectations administrators had for themselves, i.e., "feeling that progress on my job is not what it could be" and "imposing excessively high expectations on myself." Middle grade principals need to be involved in planned, serious discussions regarding administrative stress so that they begin to understand stress and its relationship to organizational productivity. If school officials fail to acknowledge the importance of administrative stress, efforts to alleviate job stress will be sporadic and ineffective.

Summary

There are numerous factors which produce job tension and administrative stress. Some writers have pointed out that it is not so much particular events which cause stress, but one's assignment of worth to the events that creates stress.²⁷ Whatever the sources of stress or the value assigned to them, middle grade principals across the nation confront daily the routine administrative tasks that consume an inordinate amount of time; the conflicts which occur between the schools and its various "publics,"; the increased emphasis on teacher evaluation and employment recommendations; and the sense of helplessness in managing problem situations such as governmental mandates and uncertain job expectations.

Realistically, school administrators are not going to be able to eliminate totally the factors which create stress in schools. However, the successful administrator will be flexible to changing circumstances and will attempt to manage the stress which he confronts daily. Administrators must first acknowledge the existence of a problem before they can begin to solve it. An understanding of stress will serve to raise a school administrator's level of consciousness so that he can recognize stress and actively seek to cope as/qr before stress occurs.

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APPENDIX A

Factors and Stressors

Administrative Constraints

1. Being interrupted frequently by telephone calls.
2. Having my work frequently interrupted by staff members to talk.
3. Writing memos, letters and other communications.
4. Feeling that meetings take up too much time.
5. Feeling that I have too heavy a work load, one that I cannot possibly finish during the normal day.
6. Complying with state, federal, and organizational rules and policies.
7. Trying to complete reports and other paper work on time.

Administrative Responsibility

1. Supervising and coordinating the tasks of many people.
2. Speaking in front of groups.
3. Preparing and allocating budget resources.
4. Evaluating staff members' performance.
5. Administering the negotiated contract (grievances, interpretations, etc.)
6. Trying to gain public approval and/or financial support for school programs.
7. Being involved in the collective bargaining process.

Interpersonal Relations

1. Feeling staff members don't understand my goals and expectations.
2. Trying to resolve differences between/among students.
3. Resolving differences with my superiors.
4. Trying to solve parent/school conflicts.
5. Handling student discipline problems.
6. Trying to resolve differences between staff members.

7. Trying to influence my immediate supervisor's actions and decisions that affect me.

Intrapersonal Conflicts

1. Feeling that I am not fully qualified to handle my job.
2. Feeling that I can't get information needed to carry out my job properly.
3. Imposing excessively high expectations on myself.
4. Attempting to meet social expectations (housing, clubs, friends, etc.).
5. Having to make decisions that affect the lives of individual people that I know (colleagues, staff members, students, etc.).
6. Feeling that I have too little authority to carry out responsibilities assigned to me.
7. Feeling that the progress on my job is not what it should or could be.

Role Expectations

1. Being unclear on just what the scope and responsibilities of my job are.
2. Feeling that I have too much responsibility delegated to me by my superior.
3. Feeling I have to participate in school activities outside of the normal working hours at the expense of my personal time.
4. Not knowing what my supervisor thinks of me, or how he/she evaluates my performance.
5. Feeling pressure for better job performance over and above what I think is reasonable.
6. Feeling not enough is expected of me by my superiors.
7. Thinking that I will not be able to satisfy the conflicting demands of those who have authority over me.

APPENDIX B

- 44 A. School administrators have identified the following 35 work-related situations as sources of concern. It's possible that some of these situations bother you more than others. How much are you bothered by each of the situations listed below? Please circle the appropriate response using the following scale:

	Not Applicable	Rarely or Never Bothers Me		Occasionally Bothers Me		Bothers Me
	NA	1	2	3	4	5
1. Being interrupted frequently by telephone calls.	NA	1	2	3	4	5
2. Supervising and coordinating the tasks of many people.	NA	1	2	3	4	5
3. Feeling staff members don't understand my goals and expectations.	NA	1	2	3	4	5
4. Feeling that I am not fully qualified to handle my job.	NA	1	2	3	4	5
5. Knowing I can't get information needed to carry out my job properly.	NA	1	2	3	4	5
6. Thinking that I will not be able to satisfy the conflicting demands of those who have authority over me.	NA	1	2	3	4	5
7. Trying to resolve differences between/among students.	NA	1	2	3	4	5
8. Feeling not enough is expected of me by my superiors.	NA	1	2	3	4	5
9. Having my work frequently interrupted by staff members who want to talk.	NA	1	2	3	4	5
10. Imposing excessively high expectations on myself.	NA	1	2	3	4	5
11. Feeling pressure for better job performance over and above what I think is reasonable.	NA	1	2	3	4	5
12. Writing memos, letters and other communications.	NA	1	2	3	4	5
13. Trying to resolve differences with my superiors.	NA	1	2	3	4	5
14. Speaking in front of groups.	NA	1	2	3	4	5
15. Attempting to meet social expectations (housing, clubs, friends, etc.)	NA	1	2	3	4	5
16. Not knowing what my supervisor thinks of me, or how he/she evaluates my performance.	NA	1	2	3	4	5
17. Having to make decisions that affect the lives of individual people that I know (colleagues, staff members, students, etc.)	NA	1	2	3	4	5
18. Feeling that I have to participate in school activities outside of the normal working hours at the expense of my personal time.	NA	1	2	3	4	5
19. Feeling that I have too much responsibility delegated to me by my supervisor.	NA	1	2	3	4	5
20. Trying to resolve parent/school conflicts.	NA	1	2	3	4	5
21. Preparing and allocating budget resources.	NA	1	2	3	4	5
22. Feeling that I have too little authority to carry out responsibilities assigned to me.	NA	1	2	3	4	5
23. Handling student discipline problems.	NA	1	2	3	4	5
24. Being involved in the collective bargaining process.	NA	1	2	3	4	5

25. Evaluating staff members' performance. NA 1 2 3 4 5
26. Feeling that I have too heavy a work load, one that I cannot possibly finish during the normal work day. NA 1 2 3 4 5
27. Complying with state, federal, and organizational rule and policies. NA 1 2 3 4 5
28. Feeling that the progress on my job is not what it should or could be. NA 1 2 3 4 5
29. Administering the negotiated contract (grievances, interpretation, etc.) NA 1 2 3 4 5
30. Being unclear on just what the scope and responsibilities of my job are. NA 1 2 3 4 5
31. Feeling that meetings take up too much time. NA 1 2 3 4 5
32. Trying to complete reports and other paper work on time. NA 1 2 3 4 5
33. Trying to resolve differences between/among staff members. NA 1 2 3 4 5
34. Trying to influence my immediate supervisor's actions and decisions that affect me. NA 1 2 3 4 5
35. Trying to gain public approval and or financial support for school programs. NA 1 2 3 4 5

Other situations about your job that bother you:

_____ NA 1 2 3 4 5

_____ NA 1 2 3 4 5

B. May we please have the following information about you and your school district?

1. Age: Under 30 30-39 40-49 50-59 60 or over
2. Position: Elementary Principal Superintendent
 Junior High Principal Supervisor of Instruction
 High School Principal Other _____
please specify
3. Are you a full-time administrator? Yes No
4. Size of district by ADA: 100-499 500-999 1000-2999 3000 and Over
5. Size of school by ADA (if applicable): 0-99 100-249 250-599
 600-999 1000 and Over
6. Sex: Male Female
7. Years in present position: 1-2 3-5 6-10 11-15 16-20 Over 20
8. Years in administration: 1-2 3-5 6-10 11-15 16-20 Over 20
9. Hours worked per week: less than 40 40-45 46-50 51-55
 56-60 61-65 66-70 Over 70
10. Hours of physical exercise per week: less than 1 1-3 4-6
 7-9 10-12 Over 12
11. Current physical health: (Excellent) 5 4 3 2 1
12. What percentage of the total stress in your life results from your job?

13. Recognizing that school administration is a demanding occupation, what ways have you personally found useful in handling the tensions and pressures of your job?

A PRACTITIONER'S VIEW OF PRINCIPALS AND STRESS

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The article "Middle Grade Principals and Job Stress" by Jack L. Brimm represents a thought-provoking, in-depth consideration of a condition so prevalent among school administrators today, job stress. Dr. Brimm's article has a three fold purpose: (1) to identify major causes of administrative stress among school personnel in Tennessee; (2) to determine how school personnel coped with job stress experienced; and (3) to make recommendations to help alleviate job stress. The article states that school administrators lead hectic lives and even the best organized principal is bombarded daily with unscheduled meetings, frequent interruptions, and petty annoyances.

As a practitioner in the hallowed halls of education, let me attest to the perception, veracity, and accuracy of that statement. What is important, however, in considering the issue of stress is how one perceives the particular event, happening, or situation. Some administrators react more violently (a strong word, perhaps, but I think appropriate) to what they see as stressful or threatening situations that do others. What may present a great degree of stress to Principal A may be of little concern to Principal B because principals are in control, to some degree, of how much stress a situation may afford to them.

In Dr. Brimm's article some of the research states that major "stress-causers" for school administrators are role conflict; work overload; inadequate compensation; interpersonal conflict with parents, teachers, students; and an increase in administrative responsibility. Swent and Gmelch (1977), in a survey of Oregon school administrators, added a few items to this list: compliance with state, federal and organizational policies; gaining public support for the imposition of excessively high standards on oneself. Certainly we would all agree that all of the above factors have the tendency to produce stress, in varying degrees and for differing reasons. I think, however, that it is not so much a question of the actual stress in a meeting, conference, telephone call, or visitation, but rather the amount or degree of stress we expect that particular situation to produce. Perhaps if we could reduce our stress expectations, the actual amount of stress occurring would be lessened. While not yet proven, this is an interesting possibility for school personnel to study further.

There would appear then to be a great deal of similarity in stress-producing situations wherever the surveys might be taken. This is, I think, to be expected. We are all human beings and, as such, are all subject to similar, if not identical, responses, reflects, and stimuli. Some stress, of course is necessary for existence. It will help keep us on course. The caution is that school administrators must not let it determine their course of action, for a high degree of stress will eventually begin to play havoc with job performance.

Coping Strategies

In terms of coping techniques, Dr. Brimm's article states that the data reported by middle grade administrators did not differ appreciably from that reported by all administrative groups. More than one method of coping with stress was given. This would come as no surprise to anyone. We are all different and we deal with situations, stressful or not, in various ways. One of Dr. Brimm's strongest statements, and I agree heartily, is that realistically, there is probably no one way that an individual finds successful on every occasion to reduce stress. What works in one situation may be entirely unsuccessful in another.

Again, as an observer of middle school administrators, I have seen proof of coping procedures work in one situation but entirely non-effective in others. As a means of handling potential stressful situations, I have suggested that giving a great deal of thought to a particular upcoming event is one way of assuring stress. Try not to think too much about that impending "disaster" and often it has not proved to be, in reality, a disaster, at least not in terms of the stress it produced. Only recently I had a principal say to me that the things he worries most about are often those which produced the least amount of actual stress. Point here: then your worrying produced the stress, not the actual situation. Moral: Worry less, expect more positive happenings and often such will be the result. While this is easy advice to give, it is more difficult to carry out.

Dr. Brimm's article states that anyone who has worked closely with school administrators knows that their days are demanding and hectic. There is rarely little time left for any type of relaxation or introspection. For example, recently I was sitting at my desk quietly and in a fairly relaxed position doing nothing -- at least this would be the message conveyed to anyone looking at me. A Principal walked in, looked surprised, and asked me if I felt well! He was so surprised not to see me working feverishly at some task or rushing about as usual. I smiled and told him I was thinking! Sometimes an administrator must do that too. I have to admit sometimes that finding time just to think is almost impossible. However, in the life and work of school administrators it is a necessity that will help to lessen their stress levels. Because they would be thinking of what they would do in a certain situation, not what that situation can or may do to them.

Stress Control

Dr. Brimm makes the point that whatever the sources of stress or the value one assigns to them, middle grade administrators across the country do meet and must handle on a daily basis such situations as administrative, time-consuming tasks; school conflicts with its various "publics"; teacher evaluation; handling governmental mandates and uncertain job expectations. These will always be factors that school administrators must deal with, and indeed they can and do produce varying degrees of stress according to the individual concerned. Dr. Brimm, in his summary suggests that never will we be able to eliminate completely the factors in our schools which can cause stress, concern, and worry. On the other hand, school administrators can and must learn to deal with the many changes that are taking place in the field of education today. If they can develop and expand this flexibility

to deal with change this will perhaps help them not become over-anxious about their ability to function effectively within a changing world -- changing in procedures as well as in expectations.

I think that all administrators, middle grades or other, must realize that the problem is often not the stress itself (often never materializing) but the way in which they try to manage and control it. Dr. Brimm's article is a realistic approach to an old problem. His closing statement that a school administrator must understand and recognize stress so that he can set up a coping network to deal with it is good, sound logic. It is reassuring and encouraging to those of us who, by choice of our profession, must deal with stress as it occurs.

Reference

Swent, B., and Gmelch, W. Stress at the Desk and How To Creatively Cope, Oregon School Study Council, Vol. 21, No. 4, December 1977.

CONSISTENCY/DISCREPANCY OF
DISCIPLINARY CONCERNS AMONG
PARENTS, TEACHERS, AND PRINCIPALS
ASSOCIATED WITH MIDDLE SCHOOLS

by

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Statement of the Problem/Questions

The Problem

Discipline (or lack of discipline) continues to be perceived by the public as the greatest and most pressing problem facing school personnel (Gallup, 1981). Discipline can be a particularly perplexing problem during the pre-adolescent and adolescent stages which coincide with the middle school age level.

While negative behavior (and the resultant discipline) can be perplexing to the middle school students, the causes and manifestations of negative behavior can be equally perplexing to the parents, teachers, and principals of this age group.

First-hand experience as a parent, teacher, and principal of middle school students leads this investigator to hypothesize that discrepancies in student behavior concerns among three role groups (parents, teachers, and principals) may cause disciplinary conflicts and inconsistencies in our middle schools. More specifically, differences in student behavior concerns and inconsistencies in reactions to student behavior among parents, teachers, and principals may be confusing to students and cause even more student misbehavior, while consistency of student behavior concerns and treatment among parents, teachers, and principals may produce better overall student behavior.

As a first step to gaining answers to this perplexing question, the objective in this investigation was to determine if there are consistencies and/or discrepancies among parents, teachers, and principals in their concerns about student behavior.

Concise Survey of Relevant Literature

Discipline problems in our public schools are the major concern of the public (Gallup, 1981). Relevant studies indicate that middle school students are implicated in many more discipline cases involving violence and vandalism than are senior high students. In fact, according to the Violent Schools/Safe Schools Study, the proportion of middle school

students involved in attacks was more than twice as great as that of senior high students - 2.1% vs 1%. These violence and vandalism cases included student(s) against student(s), student(s) against teacher(s), and student(s) against property (N.I.E., 1978).

Teachers are very concerned about student behavior. Nine teachers in 10 said student behavior interfered with their teaching in an NEA study dealing with "Disruptive Behavior." To alleviate discipline problems, teachers thought discipline policies should be stricter and students' time more tightly scheduled. They also wanted more authority to suspend unruly students from class. Ninety percent of the teachers attacked reported the incident to school authorities, but more than one-third of those said the authorities took no discipline action (NEA, 1981).

So, parents are highly concerned about lack of discipline (Gallup, 1981) and teachers are very concerned about disruptive students and don't feel that administrators take appropriate disciplinary action (NEA, 1981). Consequently, it is evident that some discrepancy of disciplinary concerns does exist.

In a comprehensive overview of recent research dealing with discipline, 14 studies were reviewed and analyzed. According to the reviewers, most research studies of discipline may be grouped into the following five categories:

1. Studies which recount the horrors of student behavior, crime, or violence.
2. Research in search of Twelve Golden Rules about Good Discipline, the 101 Golden Tips, the strategies and tactics, the approaches, and the techniques that will solve our discipline problems.
3. Research which explores the Single and Final Solution.
4. The teacher-effect studies which focus on classroom management, including clearly communicated rules and expectations, consistent rule enforcement, adequate supervision of student work, smooth transitions from one activity to another, and responsiveness to student concerns.
5. The school-effect studies which try to isolate why some schools have fewer problems than others (Gephart, et al., 1981).

In reviewing the research studies cited by Gephart, et al., it became obvious that those 14 studies overlooked contributing factors that could be highly significant to the discipline problems in our schools--that of consistency/discrepancy of disciplinary concerns among parents, teachers, and principals.

Statement of the Hypotheses

Three hypotheses used in this study were:

1. Priorities of student behavior concerns of parents and teachers of middle school students will not be different.
2. Priorities of student behavior concerns of parents and principals of middle school students will not be different.
3. Priorities of student behavior concerns of teachers and principals of middle school students will not be different.

Description of the Population and Sample Group

Population

The population of the investigation was the parents, teachers, and principals of students in the 44 middle schools of South Dakota. Middle schools were defined as those school units organized into grade levels of 5-8, 6-8, 7-8, or 7-9, according to the 1980-81 South Dakota Educational Directory.

Sample Groups

A random selection of middle schools was made on a three-level stratified basis where middle school units were classified as small if the student enrollments were under 200, medium if enrollments were 200-499, and large when enrollments were 500 and over. The sample units included six randomly selected middle schools in each of the three classifications. The sample group in each selected school unit was one principal, two teachers, and four parents. Consequently, the total potential respondents were 18 principals, 36 teachers, and 72 parents for a grand total of 126 potential respondents.

Description of Research Design and Procedures

Research Design

The data for the research were gathered from a short questionnaire which was completed by the respondents. Each respondent was asked to place nine student behavior concerns in priority order with "1" representing that behavior which was of most concern down through "9" which represented the behavior which was of least concern.

The student behavior concerns were:

1. Failure to complete assignments
2. Inability to get along with peers
3. Lack of interest/apathy

4. Rude, defiant behavior
5. Talking/interrupting class
6. Thefts of personal property
7. Truancy/missing school
8. Use of drugs, alcohol, tobacco
9. Vandalism/defacing buildings

Procedures

A 9½x12½ brown envelope containing the following was sent to each principal in the randomly selected school units.

1. The combined letter of explanation-questionnaire which described the investigation and procedure.
2. Two 6½x9½ brown envelopes, one for a "lenient" teacher and one for a "strict" teacher with the letter of explanation-questionnaire for their responses, and two stamped white envelopes which were sent to two sets of parents, one for "lenient" parents and one for "strict" parents, which contained the same type of letters of explanation and questionnaire.

In the letter to each principal, he/she was asked to complete and return one rating questionnaire and then select one "lenient" teacher and one "strict" teacher and distribute a 6½x9½ brown envelope to each. Each of the two teachers (one "lenient" and one "strict") was asked to complete and return one questionnaire and then select one "lenient" parent and one "strict" parent and address and send one white envelope to each. The white envelopes for each parent contained the same types of letter of explanation-questionnaire. The mailings to the principals occurred during the second week of May, 1981.

Report of the Data Analysis

Comparisons are made among role groups and across school sizes. The data are presented in several forms for analysis. One table indicates the potential returns, the returns, and percentage of returns in terms of role groups and school unit classifications. Other tables display, in a cross-tabular fashion, the median scores, rankings, and deviations from the median of student behavior concerns by the three role groups and school unit sizes. A final table shows the percentages of low, neutral, and high concerns of the parents, teachers, and principals.

The data displayed in the tables facilitate an analysis of variance of the student behavior concerns among the three role groups, the three school sizes, and their interactions.

Table 1 reveals the number of potential returns, the number of actual returns, and the percentage of returns by role groups and school sizes. The

Table 1
Returns by
School Size and Role Group

Schools	Parents			Teachers			Principals			Composite		
	Potential Returns	Actual Returns	% of Returns	Potential Returns	Actual Returns	% of Returns	Potential Returns	Actual Returns	% of Returns	Potential Returns	Actual Returns	% of Returns
Small (Under 200 Enrollment)	24	17	71%	12	9	75%	6	5	83%	42	31	74%
Medium (200-499 Enrollment)	24	22	92%	12	10	83%	6	6	100%	42	38	90%
Large (500 and Over Enrollment)	24	18	75%	12	11	92%	6	5	83%	42	34	81%
TOTALS	72	57	80%	36	30	83%	18	16	89%	126	103	82%

total potential returns were 126 with a total return of 103 for a return percentage of 82%. As a role group, the principals had the highest return rate. As a role group, parents had the lowest return rate (80%). The pyramid effect relating to the distribution of the questionnaires noted in the procedures section could account for this declining percentage of returns across the role groups--principals, 89%; teachers, 83%; and parents, 80%.

Table 2 displays the median and rankings of student behavior concerns by the three role groups. Parents marked the use of drugs, alcohol, tobacco as their #1 concern while teachers and principals were most concerned about lack of interest/apathy. All three role groups were consistent in their #2-ranked concern - rude, defiant behavior.

Parents and teachers agreed on their #3 concern - failure to complete assignments - while principals felt it was of very low concern to them, ranking it #8.

Principals were quite concerned (#3 ranking) with inability to get along with peers while parents and teachers ranked that concern near the bottom at #7. All three role groups were least concerned about vandalism/defacing buildings.

Table 3 shows the deviations from the median of median scores of the three role groups. It displays some large deviations from the median across role groups among the nine student behavior concerns.

It is interesting to note that rude, defiant behavior was ranked #2 by all three role groups, but teachers (-2.10) are much more concerned about it than are principals (-1.25) or parents (-.73). The #1 composite ranking was lack of interest/apathy. It was very high for the teachers (-3.50) and quite high for the principals (-3.00) but of almost neutral concern for the parents (-.50).

The composite ranking for talking/interrupting class was #5 and all three role groups deviated consistently and very little from the median--parents (+.50), teachers (+.30), and principals (+.33).

This table of deviations highlights the fact that principals (+1.63) are not much concerned at all about failure to complete assignments, but teachers (-1.70) certainly are as well as parents (-.50). It also vividly demonstrates that the parents (-2.06) are much more concerned about use of drugs, alcohol, and tobacco than either the teachers (+1.70) or the principals (+1.00).

Vandalism/defacing buildings was of lowest ranking (9) by all three role groups; however, it is interesting to note that principals (+3.13) are even less concerned about this than are teachers (+2.10) or parents (+1.79). One might guess that principals would be more concerned than teachers and teachers more concerned than parents, but an analysis of the deviations data reveals just the opposite.

Table 2
Median Scores and Rankings of
Parents', Teachers', and Principals' Concerns

Student Behaviors	Parents		Teachers		Principals		Composite	
	Median	Rank	Median	Rank	Median	Rank	Median	Rank
1. Failure to complete assignments	4.50	3	3.30	3	6.63	8	3.80	3
2. Inability to get along with peers	6.14	7	6.50	7	4.00	3	6.07	7
3. Lack of interest/apathy	4.50	3	1.50	1	2.00	1	3.45	1
4. Rude, defiant behavior	4.27	2	2.90	2	3.75	2	3.79	2
5. Talking/interrupting class	5.50	6	5.30	5	5.33	5	5.36	5
6. Thefts of personal property	6.50	8	6.20	6	5.75	6	6.20	8
7. Truancy/missing school	5.21	5	4.75	4	4.75	4	4.94	4
8. Use of drugs, alcohol, tobacco	2.94	1	6.70	8	6.00	7	5.50	6
9. Vandalism/defacing buildings	6.79	9	7.10	9	8.13	9	7.23	9

Table 3

Deviations from the Median of Median Scores
of Parents, Teachers, and Principals

Student Behaviors	Parents	Teachers	Principals
1. Failure to complete assignments	- .50	-1.70	+1.63
2. Inability to get along with peers	+1.14	+1.50	-1.00
3. Lack of interest/apathy	- .50	-3.50	-3.00
4. Rude, defiant behavior	- .73	-2.10	-1.25
5. Talking/interrupting class	+ .50	+ .30	+ .33
6. Thefts of personal property	+1.50	+1.20	+ .75
7. Truancy/missing school	+ .79	- .25	- .25
8. Use of drugs, alcohol, tobacco	-2.06	+1.70	+1.00
9. Vandalism/defacing buildings	+1.79	+2.10	+3.13

Table 4 recapitulates the data in Table 3 but does it in graphic form. Table 4 illustrates that, except for student behavior concerns #'s 1 and 2, teachers and principals follow the same pattern. Except for concerns #'s 7 and 8, the concerns of parents and teachers generate about the same pattern in that they tend to deviate together to the right or left of the median point.

Table 5 displays median scores and rankings of concerns by respondents according to small, medium, and large schools. There was complete agreement across the three school sizes (small, medium, and large) on the #1 rank - lack of interest and apathy and on the #9 rank - vandalism/defacing buildings.

Respondents from medium schools ranked inability to get along with peers #8, while respondents from small schools ranked it #5. Respondents from large schools rated rude, defiant behavior as #1; respondents from medium schools saw it as #3; and those from small schools rated it as #4.

Thefts of personal property were more of a concern in the large schools (#5 ranking) than they were in small schools (#8 ranking) while the use of drugs, alcohol, and tobacco was of more concern in the small schools (#3 ranking) than in the large schools (#7 ranking).

Talking/interrupting class was ranked #4 in the medium schools and #7 in the small and large schools. Truancy/missing school was ranked low (#6) in the small schools but at #4 in the medium and large schools.

Table 6 displays the percentage of low, neutral, and high concerns of the three role groups. Lack of interest/apathy was a high concern of almost three quarters (72%) of the respondents while rude, defiant behavior was a high concern of well over half of the respondents (64%).

Vandalism/defacing buildings was a low concern for 69% of the parents, teachers, and principals; and thefts of personal property was of low concern for 61% of the respondents.

A Discussion of the Findings, Conclusions, and Recommendations

Findings

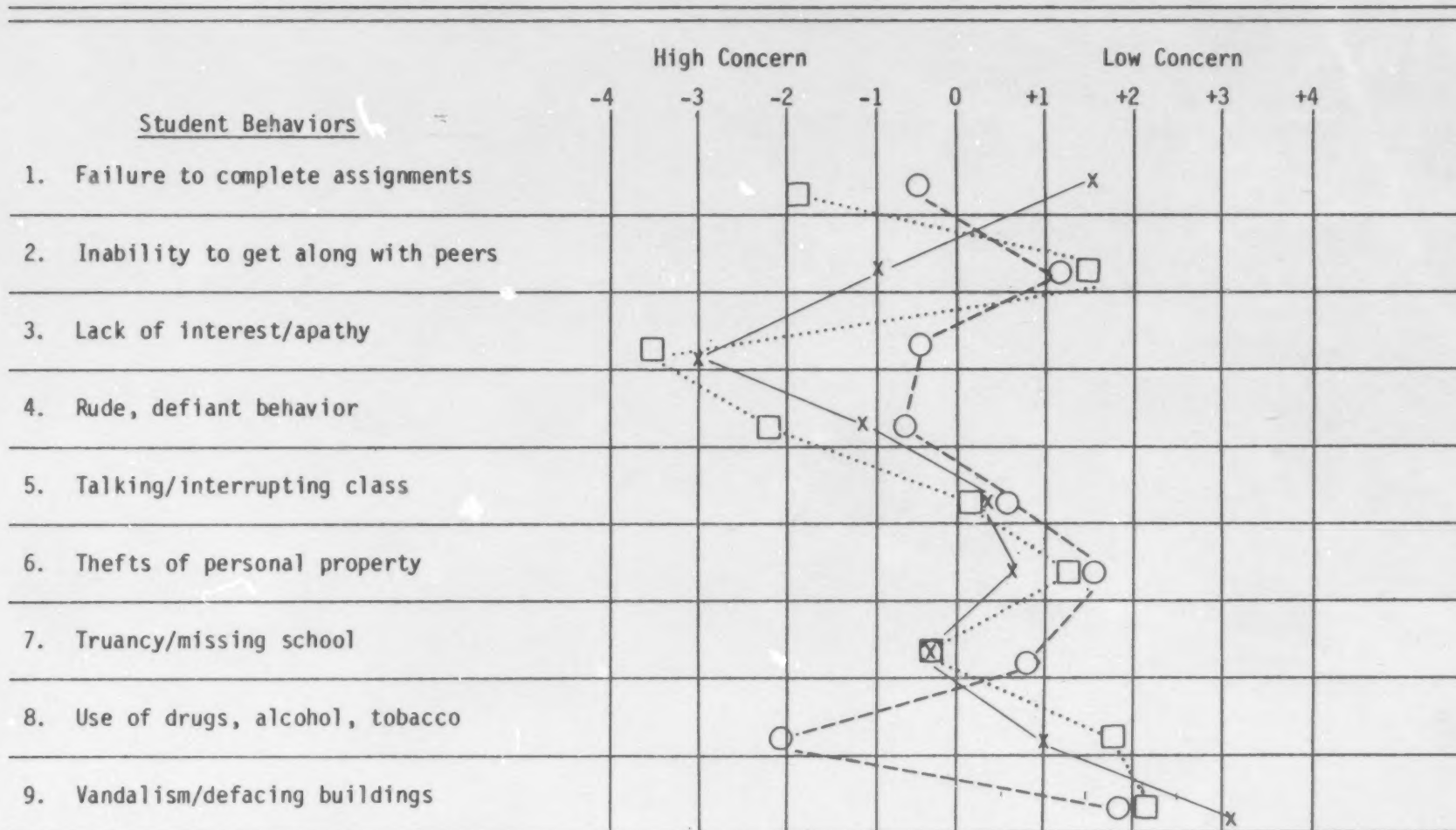
1. There was a big discrepancy between the parents and the teachers and the parents and the principals in their rankings of concerns about use of drugs, alcohol, and tobacco.

Parents ranked use of drugs, alcohol, and tobacco as their #1 concern; teachers ranked it #8; and principals ranked it #7. With this very high concern among the parents and very low concern among the teachers and principals, it seems logical that use of drugs, alcohol, and tobacco could be a source of conflict between the home and school.

Table 4

Graphic of Deviations from the Median
of Median Scores of Parents, Teachers, and Principals

58



O = Parents
□ = Teachers
X = Principals

69

Table 5
Median Scores and Rankings of Concerns by Respondents
(Parents, Teachers, and Principals) According to
Small, Medium, and Large Schools

Student Behaviors	Small Schools (Under 200 Enrollment)		Medium Schools (200-499 Enrollment)		Large Schools (500 and Over Enrollment)		All Schools	
	Median	Rank	Median	Rank	Median	Rank	Median	Rank
1. Failure to complete assignments	3.63	2	3.70	2	4.50	3	3.80	3
2. Inability to get along with peers	4.50	5	6.50	8	6.75	6	6.07	7
3. Lack of interest/apathy	2.50	1	3.50	1	4.00	1	3.45	1
4. Rude, defiant behavior	4.08	4	4.00	3	4.00	1	3.79	2
5. Talking/interrupting class	5.13	7	5.10	4	6.83	7	5.36	5
6. Thefts of personal property	6.33	8	5.80	7	6.50	5	6.20	8
7. Truancy/missing school	4.63	6	5.10	4	5.75	4	4.94	4
8. Use of drugs, alcohol, tobacco	3.67	3	5.50	6	6.83	7	5.50	6
9. Vandalism/defacing building	7.75	9	7.50	9	7.83	9	7.23	9

Table 6
Percentages of Low, Neutral, and High Concerns
of Parents, Teachers, and Principals

Student Behaviors	Low Concern (Ratings of 6, 7, 8, or 9)				Neutral Concern (Rating of 5)				High Concern (Ratings of 1, 2, 3, or 4)			
	Parents	Teachers	Principals	Avg.	Parents	Teachers	Principals	Avg.	Parents	Teachers	Principals	Avg.
1. Failure to complete assignments	36	26	54	38	14	7	9	10	50	66	36	51
2. Inability to get along with peers	67	60	36	54	19	7	9	12	15	33	54	34
3. Lack of interest/apathy	36	6	9	17	14	17	0	10	49	77	90	72
4. Rude, defiant behavior	26	13	27	22	17	13	9	13	56	72	63	64
5. Talking/interrupting class	51	46	45	47	7	17	27	17	43	36	27	35
6. Thefts of personal property	57	73	54	61	5	3	27	12	38	23	18	26
7. Truancy/missing school	46	31	36	38	17	27	18	21	38	44	45	42
8. Use of drugs, alcohol, tobacco	34	73	54	54	2	0	0	1	63	26	45	45
9. Vandalism/defacing building	58	70	81	69	5	10	0	5	39	20	18	26

2. The three role groups were exactly consistent on their #2-ranked concern - rude, defiant behavior.

Even though the three role groups each ranked rude, defiant behavior as their #2 concern, the analysis of the deviations from the median on this item does reveal quite a deviation among the three groups. Teachers (-2.10) were considerably more concerned than either the principals (-1.25) or the parents (-.73). Logic would indicate that the teachers would be more concerned than either the principals or the parents because they likely encounter this behavior on a daily basis in their classrooms.

3. Quite a large discrepancy between principals and parents and principals and teachers was revealed in their concerns about failure to complete assignments.

Principals ranked failure to complete assignments as #8 (low concern) while parents and teachers ranked it #3 (high concern). This difference might be expected because parents and especially teachers deal with failure to complete assignments more directly and more often than would principals, although principals may become involved in this problem if it persists.

4. Another large discrepancy between principals and parents and principals and teachers was found in their concerns with inability to get along with peers.

Principals ranked inability to get along with peers #3 (quite high) while parents and teachers ranked it #7 (quite low). This difference between the principals and the parents and the principals and the teachers might be expected because principals generally must deal with larger groups of peers than do parents or teachers.

5. The three role groups were exactly consistent in their #9-ranked concern - vandalism/defacing buildings.

Even though the three role groups ranked vandalism/defacing buildings as #9 (lowest concern), an analysis of the deviations from the median of their scores revealed something quite interesting. Parents (+1.79) were more concerned than teachers (+2.10) and a great deal more concerned than principals (+3.13) about vandalism/defacing buildings.

Job descriptions of principals generally indicate that they have some responsibility for the upkeep and "looks" of the building, so one might conclude that principals, as a group, might have a higher ranking of concern for vandalism/defacing buildings or at least, within this low concern ranking, that their deviation below the median would be less than the parents or the teachers.

6. The larger the school the more likely the respondents were to be concerned about rude, defiant behavior.

Respondents from large schools ranked rude, defiant behavior as their #1 concern (highest concern) while it was the #3-ranked concern among respondents from medium-sized schools and the #4-ranked concern among those from small schools. This finding might be expected based upon the assumption that rude, defiant behavior increases when enrollment becomes larger, more impersonal, and more anonymous.

7. Thefts of personal property were more of a concern in the large schools than they were in the small schools.

Respondents from large schools ranked thefts of personal property as their #5 concern while those from small schools ranked it #8. This might be expected based upon the assumption that students in larger schools are involved in more thefts because of the more impersonal, more anonymous nature of the student body in schools with larger enrollments.

8. Use of drugs, alcohol, and tobacco was more of a concern in the small schools than in the large schools.

Respondents from the small schools ranked use of drugs, alcohol, and tobacco as their #3 concern (high concern) while it was ranked #7 (low concern) by the respondents from large schools.

Conclusions

The first hypothesis was that priorities of student behavior concerns of parents and teachers of middle school students will not be different. In terms of ranking, this hypothesis was true for four of the nine student behavior concerns; varied by only 1 point on two of the nine; and varied by 2 points on two of the nine. So, in general, parents and teachers were consistent in their disciplinary concerns. However, in terms of their concerns about use of drugs, alcohol, and tobacco, they demonstrated considerable discrepancy. Parents rated this concern #1 and teachers rated it #8.

The second hypothesis was that priorities of student behavior concerns of parents and principals of middle school students will not be different. The rankings indicated this hypothesis was true for two of the nine student behavior concerns; varied by just 1 point on two of the nine; and varied 2 points on two of the nine. On three of the nine concerns, parents and principals differed in their rankings by at least 4 points. On one concern, use of drugs, alcohol, and tobacco, there was considerable discrepancy between the concern of parents and principals. Parents rated it #1 and principals #7.

The third hypothesis was that priorities of student behavior concerns of teachers and principals of middle school students will not be different. This hypothesis held true, according to the rankings, on six of the nine student behavior concerns; varied by only 1 point on one of the nine; and

by 4 points on one of the nine. Teachers and principals did register considerable discrepancy on the concern - failure to complete assignments. Teachers ranked this one #3 (high concern), and principals ranked it #8 (low concern).

In summary, there was consistency among the three role groups in their disciplinary concerns. There was more consistency between teachers and principals than there was between either parents and teachers, or parents and principals. There was a great discrepancy between parents and teachers and parents and principals on use of drugs, alcohol, and tobacco.

Recommendations

Since this study found that there was a great discrepancy between home (parents) and school (teachers and principals) in terms of their concerns about use of drugs, alcohol, and tobacco, this difference could be a potential source of misunderstanding and conflict between home and school with students caught in the middle. There seems to be a need to provide avenues of communication (PTA, Advisory Councils, etc.) for home (parents) and school (teachers and principals) to interface and discuss their differing concerns--especially the topic of use of drugs, alcohol, and tobacco.

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A PRACTITIONER'S VIEW OF DISCIPLINARY CONCERNS

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Student Behavior

The nine student behavior concerns selected by Professor Huber were comprehensive. My experience, review of current literature, and contact with teachers, parents, business personnel, and other adults through the church and the community convinces me that these same concerns are shared by many people in our society. These concerns fit well into the categories Huber set up for study.

Research Design

The random stratified sample of middle schools in North Dakota was of sufficient size, but it was not clear that urban and rural areas of this state were proportionally represented. Presumably the small schools in the sample would imply a rural setting and the larger schools would imply a larger city, but this was not explicitly indicated to the reader of this research article.

The research findings are well presented. The percent of returns was excellent (ranging from 89% to 80%). Table 4 represents a useful graphic presentation of the data in Table 3 which describes the differences between the views of parents, teachers and administration. Table 5 provides a good display of comparative data.

Conclusions and Recommendations

The conclusions were presented in a form so that the readers (Teachers, Principals, and other Administrators, Education Professors, Education Students, or Concerned citizens) could easily grasp the results. These results suggest that we need to give special attention to the discrepancy between home and school regarding student use of drugs, alcohol and tobacco. At least we may need to replicate this study in our local areas to check if the same pattern of views is present in our local districts.

In conclusion I believe that this is a well done research article that provides a useful model for administrators to follow in assessing communication between home and school at the district level.

THE EFFECTS OF ALPHA TRAINING ON ACHIEVEMENT, RETENTION, AND DISRUPTIVE BEHAVIOR OF MIDDLE SCHOOL CHILDREN¹

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In search of better and more efficient methods of management and instruction for middle school boys and girls, the investigation using alpha training was designed. Alpha training is a technique designed to teach the person to control the internal functions of the mind, body, and state of human potential.

The alpha state is characterized by a preponderance of brain waves between 8 and 12 Hertz (cycles per second). It is associated with an alert and nonfocused, but relaxed mind. To achieve the alpha state at will, the individual must concentrate on inner awareness and, in so doing, minimize the effect on consciousness of outside stress. Some authorities (Brown, 1980; Ostrander and Schroeder, 1979; and Sexton and Poling, 1973) believe that being able to achieve and wilfully to maintain the alpha state releases new energies for learning.

Learning to control brain wave patterns depends upon the development of an awareness of subtle internal sensations that normally go unnoticed until a feedback device focuses attention on them. The biofeedback instrument, the encephalograph analyzer, is used to measure brain wave patterns. The human brain produces a continuous output of minute electrical signals. The strength of these signals is so small that it is measured in microvolts, or millionths of a volt. The signals can be detected and recorded accurately, however. To detect and record the changing electrical potentials, they must be picked up first by electrodes or sensors attached to the surface of the scalp and then amplified many thousands of times before they can be analyzed. When the encephalograph analyzer reproduces the frequency and amplitude of the brain wave on a chart, the record thus produced is known as an electroencephalogram.

Autogenic exercises, a technique developed by Luthe (1965), is also beneficial in helping an individual achieve the alpha state. It is a method in which the mind is used to control the body through suggestion and visualization. The suggestion and visualization exercises involve imagining (1) heaviness in the arms and legs, (2) warmth in the extremities, (3) a quiet and regular heartbeat, (4) calm and regular breathing, (5) a warm solar plexus, and (6) a cool forehead. Authorities (Green and Green, 1977; Brown, 1974; 1977 and 1980; and Anderson, 1978) suggest autogenics as an excellent technique to combine with EEG training.

¹The complete study may be secured from the author upon request.

Using alpha training as a means of achieving the relaxed state, the researcher sought answers to the following questions:

1. Do middle school students who receive alpha training have better medium-term recall than comparable students taught by the same method with no training?
2. Do middle school students who receive training have better long-term recall than boys and girls taught by the same method with no training?
3. Are there fewer school dropouts with alpha training?
4. Do boys and girls who receive alpha training exhibit fewer disruptive behaviors than comparable students with no training?

Review of Literature

There is a conspicuous absence of scientific investigations specifically concerned with the relationship between alpha training and cognitive and affective behaviors of average learners. The majority of research to date deals with exceptional children or adults. Furthermore, findings from the studies are varied. Some evidence substantiates the value of alpha training for changing behavior while other findings contradict it.

Using biofeedback instrumentation, Carter and Russell (1981) found significant increases in reading but not in arithmetic skills as a result of EEG alpha and beta training. In a study with learning disabled children, Gracenin and Cook (1977) found that alpha training with the experimental group produced no significant gains over the control group when total reading scores were examined. On the other hand, Patmon and Murphy (1978) in a study of hyperactive adolescent learning-disabled students reported improved reading achievement on the Wide Range Achievement Test with training in the control of EEG frequency.

Nall (1973), after informally observing what appeared to be positive effects of alpha training with hyperactive children in a special school for children with behavior problems, conducted a study using an alpha training group, a placebo group, and a control group. Comparisons between the training and the placebo groups were inconclusive, although Nall noted that the training appeared to be very beneficial with particular children.

Autogenic exercises have proved successful in changing behaviors. Luthe (1969) reported long-term effects on the improvement of scholastic performance and standardized test scores. While using the method with Japanese children and adolescents for various medical disorders, he noticed changes in behaviors and interactional processes. Teachers also reported noticeable improvements in classroom participation, a decrease of distractibility, improved attention, better concentration on tests, and increased homework performance. Sellers (1974), using autogenics over a four-year period with underachieving high school and college students, reported

positive treatment effects on concentration, study habits, listening ability, reading and writing skills, and an increased sense of self-worth. Harlem (1975) found superior performance by black second graders who had received autogenic training on the Matching Familiar Figures Test, forward and backward digit span tasks, a paired associate task and problem approach exercises when compared to like students who had received no training. The treatment was effective with both high and low achieving male and female pupils.

Cue-controlled relaxation, a technique using breathing exercises along with suggestive words such as calm, warm, and relaxed, proved beneficial for children 7 to 15 years of age with emotionally related learning problems. With a 15 minutes practice session before the instructional period, Palmeri (1980) found that emotionally disturbed children made significant gains on achievement, measured by the Peabody Individual Achievement Test, and on the attentiveness and aggressiveness factors of the Conners Teacher Rating Scale, when compared to other emotionally disturbed children receiving the same instruction who had not received the training. Learning disabled children did not show significant improvement in achievement but did improve significantly on the attentiveness factor of the Conners Scale. Palmeri concluded that relaxation training would be helpful as a supplement to other remedial techniques for both emotionally disturbed and learning disabled students.

As is evident, the research with children deals mainly with exceptional children who are learning disabled or emotionally disturbed. For this study the children were selected from the general population of preadolescent children who volunteered for a summer program and therefore, possessed high anxiety or learning problems no more or no less than is found in such a population.

Design of the Study

Cognitively, the investigation examined medium- and long-term acquisition of knowledge (French) of preadolescents with and without alpha training. Affectively, factors such as retention and disruptive behaviors were measured.

The following research hypotheses were tested:

1. Students with alpha training will demonstrate a higher average number of points on all daily teacher-constructed tests than comparable students without training.
2. Students with alpha training will demonstrate a higher average score on each of the four subtests--reading, speaking, writing, and listening--and total test of the Pimsleur Modern Foreign Language Proficiency Test: French than comparable students without training.
3. Students who receive alpha training will drop out of the French classes at a lower rate than comparable students who receive no alpha training.

4. Students who receive alpha training will exhibit fewer incidences of disruptive behavior than comparable students without alpha training.

The sample for the study was composed of 62 preadolescent boys and girls, aged 10 to 14, who were selected randomly from a group of 167 middle school students with no previous instruction in French who volunteered to participate in an eight-week summer program consisting of a set of three learning experiences. The three experiences were a six-week course in French, and two special one-week sessions. The special sessions were (1) a one-week education program in alpha training, and a one-week activity in instant theater. The order of the two special sessions was reversed to comprise the treatment variable. Instant theater served as a placebo and a device for keeping the students blind to the nature of the research design.

As soon as the students had been selected, they were assigned randomly to two groups, a treatment group and a control group. Mental aptitude scores indicated that there was no significant differences in learning ability between the two groups. The treatment group participated in a one-week alpha training session utilizing autogenic exercises, and EEG biofeedback instrumentation, aimed at training the child for wilful elicitation of the relaxation response while the control group was engaged in instant drama with the video tape serving as instant feedback. After the one-week special sessions, the six-week French instructional period began. The two teams of teacher and aide were assigned randomly to the two groups. To control for differential effect of the instructional team, the teams were reversed halfway through the instructional sequence. The only difference between the instruction in the two groups was that the experimental group participated in alpha training for 10 minutes each day immediately after the evaluation period for the previous day's learning and before the instruction for the day. The final week, not included in the experimental phase, was a reversal of the special one-week sessions.

Testing for medium-term recall of the previous day's instruction in the four areas of French--speaking, listening, reading, and writing--was done using teacher-made tests the first period of each day. The Pimsleur instrument, serving as a measure of long-term recall, was administered the last week of the French instructional phase. The analysis of variance procedure was used to test the hypotheses related to the acquisition of French knowledge.

Daily attendance records provided the data needed for retention information. The Fisher exact test of the difference of two independent proportions was used to determine if the drop-out rate differed significantly between the two groups.

An observer recorded on a researcher-designed observation form the number of disruptive behaviors observed during ten-minute periods in the experimental and control groups while the students were engaged in similar activities. The measures were subjected to the Wilcoxon matched-pairs

signed-ranks test to test for significant differences.

Statistical Findings of the Study

Table 1 shows the mean scores made by students on the teacher-constructed daily tests in the areas of reading, speaking, writing, listening, and total tests, as well as the difference between them. The value of the F statistic from the analysis of variance is reported, together with the one-tailed probability of observing such a large value of F when the null hypothesis is true. When that probability drops below a value of 0.01, the research hypothesis will be declared to be supported. Please observe that such a result is significant at the 0.05 level of significance when five independent hypotheses are tested on the same sample. $[(1-0.01)^5 \approx (1-0.05)]$. Frequently, such a conservative approach to hypothesis testing establishes a "family-wise" level of probability corresponding to the researcher's significance level for the study.

Even though the experimental group mean slightly exceeded the control group mean on each of the areas--reading, speaking, writing, listening, and total tests--the evidence is not adequate to assert that a group of students given alpha training will learn French any more proficiently than a similar group without such training when measured on teacher-constructed daily measures. Therefore, Hypothesis 1, dealing with medium-term recall of information, was not supported.

Four overall achievement measures were made on all subjects who completed the French classes. The measurements were subtests of the Pimsleur French Proficiency Test. The subscales were as follows: speaking, listening, writing and reading. The four scores were summed to produce a total score. Table 2 reports the five t-tests for mean differences on each subscore and the total score between the two groups. In none of the comparisons was a mean difference observed which was statistically significant. The research hypothesis asserted that the group which received alpha training would demonstrate greater French achievement than a comparable group which received no alpha training. The hypothesis was not supported.

Of the 62 students who enrolled in the French classes, 14 dropped out of the project before its end. While parents were urged to encourage their children's attendance, no extraordinary effort was made to ensure the student's continued enrollment. Care was taken to assure that the two groups were treated alike in the discouragement of dropouts. Of the 14 dropouts, only 3 left the experimental group and one of these was hospitalized and could not complete the lessons. Eleven students dropped out of the control group. Table 3 reports the results of test of the difference of two independent proportions in order to test the following research hypothesis: Students who receive alpha training will drop out of the French classes at a lower rate than comparable students who receive no alpha training. The hypothesis is supported at the 0.05 level of significance.

TABLE 1

A TEST OF THE SIGNIFICANCE OF A DIFFERENCE BETWEEN EXPERIMENTAL
AND CONTROL GROUPS ON DAILY MEASURES OF PERFORMANCE IN READING,
SPEAKING, WRITING, LISTENING AND TOTAL SCORE

Group	Mean	Between Group Difference	F Statistic
<u>Reading Daily Scores</u>			
Control	5.138	0.802	2.48, p = 0.18
Experimental	5.940		
<u>Speaking Daily Scores</u>			
Control	2.868	0.163	0.03, p = 0.44
Experimental	3.031		
<u>Writing Daily Scores</u>			
Control	2.619	0.111	0.00, p = 0.48
Experimental	2.730		
<u>Listening Daily Scores</u>			
Control	7.153	0.045	0.00, p = 0.49
Experimental	7.198		
<u>Total Daily Scores</u>			
Control	17.661	1.088	0.08, p = 0.41
Experimental	18.749		

TABLE 2

RESULTS OF FIVE T-TESTS FOR MEAN DIFFERENCES BETWEEN EXPERIMENTAL
AND CONTROL GROUPS ON THE FOUR SUBSCORES AND THE TOTAL SCORE
OF THE PIMSLEUR FRENCH PROFICIENCY TEST

Group	N	Mean	Standard Deviation	t ^a
<u>Speaking Subscore</u>				
Experimental	27	41.33	13.11	1.04
Control	20	36.85	16.50	
<u>Listening Subscore</u>				
Experimental	27	13.11	4.20	-0.40
Control	20	13.60	4.04	
<u>Writing Subscore</u>				
Experimental	27	5.07	4.53	-0.88
Control	20	6.55	6.96	
<u>Reading Subscore</u>				
Experimental	27	9.22	3.11	1.09
Control	20	8.30	2.45	
<u>Total Score</u>				
Experimental	27	68.74	26.29	0.45
Control	20	65.30	25.83	

^aThe critical value of $\underline{t}$ at the 0.05 level of significance for each test is $\underline{t}_c = 1.68$. No observed value of $\underline{t}$ exceeded the critical value.

TABLE 3

RESULTS OF THE FISHER EXACT TEST OF THE DIFFERENCE OF TWO
INDEPENDENT PROPORTIONS OF STUDENTS WHO DROPPED OUT OF
FRENCH CLASSES BEFORE THE PROJECT'S END

Total Number of students	62
Total number of dropouts	14
Proportion of dropouts	0.23
Proportion remaining	0.77
<u>Control Group</u>	
Number of students	31
Number of dropouts	11
Proportion of dropouts	0.355
<u>Experimental Group</u>	
Number of students	31
Number of dropouts	3
Proportion of Dropouts	0.097
Fisher exact probability ^a that the two proportions do <u>not</u> differ	0.017*

*Significant at the 0.05 level

^aFerguson (1975), Chapter 22, 3rd Edition, 1975, Section 11,
p. 340-342.

In order to measure the frequency of disruptive behaviors, a simple observation form was developed. Eight types or examples of disruptive behavior were listed for the subject: (1) difficulty concentrating for any length of time; (2) overactivity, restlessness, and/or continual shifting of body positions; (3) disturbing other children by talking, teasing, provoking fights, or interrupting; (4) moving inappropriately out of seat; (5) seeking attention from peers; (6) responding inappropriately to teachers; (7) giggling or laughing inappropriately; and (8) uttering nonsense syllables and/or babbling to oneself. An observer counted the incidence of such behaviors, without regard to the specific type, within a two-minute interval. Observations continued for five consecutive two-minute periods. The total incidence of disruptive behavior were determined by summing the frequency of such behavior in the five-time intervals. The same observer made all observations using the same observation form. The two classes were observed on the same day during periods in which the children participated in similar activities from the third to sixth week of French instruction. Then the pairs of observations were used to test the following research hypothesis: Middle school students who receive alpha training and daily relaxation exercises will tend to exhibit fewer incidences of disruptive behavior than comparable students without alpha training and exercises. The Wilcoxon matched-pairs signed-ranks test (Ferguson, 1975) was used to test the null hypothesis. The test statistic, $W+$, was found to equal 0.00 and therefore was significant beyond the .005 level of significance. In no pair of observations was the number of disruptive behaviors for the control group lower than that for the experimental group. Refer to Table 4 for details of the statistical test.

Discussion and Recommendations

The results of the study must be interpreted in the light of a methodological limitation. An annoying source of experimental confounding occurred in the study which was recognized too late to be eliminated. Besides the treatment variable, the experimental group participated in a noncognitive group task, the relaxation exercises, daily. The possibility exists, however improbable, that the observed differences between the groups should be attributed to the group interaction within a nonthreatening context. In subsequent research, this source of confounding should be controlled.

It must be noted that the experimental group out-scored the control group on the four areas--reading, speaking, writing, and listening--and the total test score on daily tests and on some of the subtests of the Pimsleur French Tests, although not enough to be significant. This increase was made with less instruction time. As pointed out earlier, the first ten minutes of the French instructional period for the experimental group was spent in alpha training. The observation made by the researcher was that the time "off-task," at the very least, posed no deterrent to cognitive learning.

TABLE 4

REPORT OF FREQUENCY OF DISRUPTIVE BEHAVIORS FOR THE
EXPERIMENTAL AND CONTROL GROUPS WITHIN ELEVEN
OBSERVATIONS OF TEN MINUTES EACH

Frequency of Disruptive Behaviors

Observation	Experimental	Control	Difference	Signed Rank
1	5	15	-10	- 6
2	7	13	- 6	- 4
3	1	8	- 7	- 5
4	5	22	-17	-10
5	4	6	- 2	- 1
6	9	28	-19	-11
7	14	27	-13	- 8
8	10	15	- 5	- 3
9	3	15	-12	- 7
10	17	20	- 3	- 3
11	13	27	-14	- 9

The sum of positive signed ranks, W^+ , equals 0. Such a statistic is significant beyond the .005 level of significance.

The changes in affective behaviors were so noticeable in the experimental group when compared to the control group that other persons working in the school other than the project's staff commented about them. The treatment group came to school earlier, missed fewer days, and showed more self control at recess and in the halls (variables not measured in the study). It was not surprising then that analysis of the data on retention and disruptive behaviors showed significant differences between the two groups. The experimental children appeared to be less competitive, showed better attending behaviors, and, in general, were more manageable. The results of the study agreed with other findings in the literature (Luthe, 1969; Sellers, 1974; and Palmeri, 1980) related to affective changes.

The investigation, as usual, raised more questions than were answered, and therefore, suggested more research. Further exploration is needed in the area of alpha training and learning with both normal and exceptional children since the literature reports conflicting results. Alpha training tends to produce open-focus, rather than narrow-focus, attention. Perhaps such attending may be more helpful to the higher order cognitive behaviors, such as synthesis of ideas, than to the lower order behaviors, such as learning and comprehension of simple facts. Such a hypothesis seems more tenable to the researcher after the present investigation than it would have appeared prior to the study and pleads for a rigorous test. Since attitudes appeared changed, further research is needed in the regular school program to relate alpha training to self-management, motivation, and participatory skills.

Clearly, the technique is new and needs much further study. However, the results of the investigation indicated positive affective changes with no ill effects in cognitive behavior.

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A PRACTITIONER'S VIEW OF ALPHA TRAINING

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Interpretation

Alpha training coupled with autogenic exercises as researched by Matthews suggests potential application for Middle School use. Matthews hypothesizes that students with Alpha training will demonstrate greater advantages with medium recall and long term recall were not supported. Additional hypotheses concerning lesser drop out rates and less exhibition of disruptive behavior were supported. Before major deductions can be made regarding Alpha training and hypotheses supported by Matthews, a study would have to be conducted in a "regular" school program. The Matthews' study was conducted with voluntary, randomly selected students, studying French in summer school.

Reality

Alpha training like all other training to improve the growth and development of children requires an extensive staff training process. Creating awareness, educating the staff, conducting training, and consistently evaluating the process must become a primary focus of the entire staff for success to be achieved. To implement Alpha training would require finances and inservice released time, as well as a strong desire to improve and enrich students learning capabilities.

School districts focusing on staff development could select Alpha training as its focus. First, as a step in the process of self improvement a desire to improve must be present for both teacher and student. Second, a plan to train staff must be reasonable, affordable, and available to all. Third, constant and consistent assessment must be present. Fourth, Alpha training combined with improved communication skills has potential. Given the fact of declining enrollments, and pink slipped colleagues, some districts might not see the need for Alpha training. However, uppermost in educators' minds, should be students' continuous successful progress. To address student needs in our computer age no area of human development should be overlooked, downgraded, or classified as "too" expensive.

Middle school students represent bubble gum and high heels sophistication and maturity, tears and hysteria, verbosity and silence, challenge and frustration, questioning and withdrawal, sullen faces and jubilant laughter. The Middle School teacher working with these students must possess a combination of skills in both academic areas and human relations. Training that can assist Middle School teachers is worthy of pursuing.

Conclusion

Alpha training can be utilized in a Middle School setting not as a sole and separate device. Integrated into the school day, the atmosphere and

student readiness to learn can be enhanced. Students come to us daily with all the components of themselves, their families, and their peer world. Educators must avail themselves of opportunities for growth. Competence is not enough. It is the bottom line. Excellence is required for those working with shaping minds and futures of today's middle schooler. They are fascinating, loving, challenging and public education's most interesting and rewarding group. We must take a leadership role and do what we have been trained to do -- administrate, teach, and educate in a humane way.

Section II

Program Evaluation

After A Decade
The Monroe County Community School Corporation
Middle Schools Are Revisited

A Process For Reassessing Middle School Programs

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A Statement of the Problem/Hypotheses

Since the late 1960's the Monroe County Community School Corporation has been involved in middle school education. Located in Bloomington, Indiana, the school district has been greatly influenced by the proximity of Indiana University, and has developed a reputation acknowledged in the State of Indiana and nationally as being a school district with innovative and exemplary curricular programs. The district's early involvement and commitment to the middle school concept is only one example of the district's leadership and foresight in curriculum development.

In 1980, after over a decade of experience with middle school concepts, the school board and administration felt it was time to re-examine the original philosophy and concepts of middle school education to discover if they were viable for the decade of the 80's. Were current middle school programs and practices in keeping with stated philosophies and objectives? This question became the basis for this study not because of any perceived weaknesses or dissatisfactions with current middle school programs, but rather as a part of a continuous commitment to a curriculum planning and review process, and a desire to discover if programs were evolving in the hoped for manner. In September of 1980, the school board voted to appoint a task force to pursue such a reassessment.

A Description of the Population and Sample Group

Monroe County, Indiana, is located in southwestern Indiana and has a population of approximately 100,000.

The Monroe County Community School Corporation serves all but two townships of the entire Monroe County area and presently programs for 11,452 students within two high schools, one alternative high school, five middle schools, and fifteen elementary schools.

The community is primarily Caucasian, Protestant, English-speaking, and native-born. However, a wide variety of life-styles, ethnic groups, religious denominations, and other interest groups are represented both throughout the county and in the neighborhoods served. Approximately 96 percent of Monroe County is Caucasian, with Blacks and Middle Eastern comprising the other 4 percent. Demographic figures indicate a community

composed of 17 percent rural, 57 percent suburban, and 26 percent urban. The population of Monroe County has shown a steady increase over the past few years.

The presence of Indiana University located in Bloomington, Indiana has many influences on the community in general and the schools in particular. The most obvious effect seems to deal with a movement in population. Mobility, due to Indiana University and several industries, causes approximately one-third of the community to change every 4 years. Another influence exerted by the presence of Indiana University is the level of education attained by parents of the students throughout the community. Over 85 percent of the parents have acquired a high school education, and 36 percent have attained a bachelor's degree or higher. In contrast, under 40 percent acquired a high school education, and 14 percent attained a bachelor's degree or higher nationally. As a result, the occupations of parents in the Bloomington community are primarily professional, managerial, service, and skilled positions.

The five middle schools have a combined total of 2,668 students and range from rural to urban in nature. The status of the corporation's five middle schools indicated that two middle schools had been accredited by the North Central Association, one had gone through the self-study and was awaiting the NCA team's visitation and the remaining two were in the discussion stage of preparing for an evaluation. These five schools with their various programs and populations were the subject of this extensive review.

Description of the Research Design and Procedures

The Monroe County School Board and administration deliberated at length regarding the procedures to be followed and the personnel to be used. Basic guidelines were established and used in carrying out the project. These were specifically stipulated by the Board.

The Monroe County Schools is noted for lay involvement in educational issues. Therefore, it was natural for a task force to be appointed by the Board to do the research and bring a report to the Board for consideration. It was determined that the task force be small, not over 15 members, and representative of the community. The Assistant Superintendent for Secondary Education was to serve as chairman and seek the services of a consultant. This resulted in a committee consisting of five teachers and five parents representing each of the five middle schools; one middle school principal and middle school assistant principal; a noted Indiana University professor as consultant and one school board member.

Guidelines were given to the task force which included the following:

1. The task force was to be a working committee.
2. The committee was responsible for its organizational structure.
3. There could be sub-committees appointed by the central committee.

4. Interim progress reports were to be made to the Board.
5. A final report was to be submitted to the Board within one year.
6. Financial assistance for visitations and materials was available.

Basic Objectives

The Middle School Study Committee's charge from the Superintendent was "to conduct an in-depth study of the current Monroe County Community School Corporation's middle school program to identify areas of strengths and areas where improvements might be made." Other questions to be investigated included:

1. Was the original middle school statement of philosophy and objectives adequate in terms of what the community desired in the way of middle school programs for the 1980's?
2. Were current middle school programs organized around the stated philosophy and were these programs meeting the needs of early adolescents?
3. Were extra-curricular opportunities provided for middle school students in an appropriate manner?
4. Were current operational procedures in areas such as teacher selection and certification, organization of the school day, the use of school facilities, adequate for the needs of the middle school concepts?
5. Were efforts by the corporation to provide a smooth transition from elementary students into middle school successful?
6. Were efforts by the corporation to provide a smooth transition for middle school students into high school successful?

The following procedures were recommended to the committee by the Superintendent:

Suggested Procedures

1. Review current literature on middle school education;
2. review middle school studies which had been conducted in other school systems or by a national organization such as NASSP, NMSA, etc.;
3. hear presentations by teachers and principals describing current Monroe County middle school programs and perhaps visit all middle schools to see programs in operation;
4. conduct several open meetings for the purpose of receiving parental/community input;

5. send committee representatives to state or national conferences on middle schools, or visit other successful middle school programs;
6. schedule sessions with specific resource persons to receive information in areas such as school finance and budgeting, special education, programs for the gifted and talented, school plant and maintenance, reading programs, etc.;
7. review information contained in various North Central evaluation reports which have been completed for three of the district's five middle schools;
8. design and administer questionnaires/surveys necessary to collect data from faculty, parents, and students;
9. review data generated by the district's standardized testing program.

The Middle School Study Committee initially devoted several sessions to organizing itself and attempting to give members a common background in terms of reading materials and discussion. In addition, several filmstrips were shown which depicted various middle school/junior high concepts. An itemized listing of these published materials and filmstrips is contained in the appendix of the study. A school visitation schedule was devised and committee members visited each of the Monroe County schools during normal school days.

Since the primary task of the Middle School Study Committee was to assess the middle school program of the Monroe County Community Schools many options were available to it for conducting such an assessment. Considerable time was initially spent attempting to determine the "direction" for the evaluation. Time after time, the Committee found itself reviewing and revising the basic middle school philosophy which was written in 1967-68.

As a result of lengthy discussions, a decision was made by the committee to concentrate its evaluative efforts on the philosophy. The committee felt it was vital to establish an acceptable educational philosophy as a common focal point for their deliberations. ARE MIDDLE SCHOOLS IN MONROE COUNTY MEETING THE EDUCATIONAL GOALS OF THE COMMUNITY AS STATED IN THE PHILOSOPHY? This philosophy became the primary focus of the committee's investigation. The philosophy was carefully examined and twenty objectives and concepts contained in the philosophy were identified.

Monroe County Middle School Philosophy

The transmission of fundamental knowledge, skills, culture, values, and attitudes is essential in fulfilling the personal and social responsibilities which a democracy places on its members.

The middle school program must exert continuous effort to develop and refine students' academic skills through breadth and depth of learning in subject areas. This will enable students to acquire the critical skills of judgment, problem-solving, and decision-making required of participating citizens in contemporary society as well as in the society of the future.

Social, physical, and emotional development must be emphasized to give students opportunities to gain experience and develop a positive sense of value concerning themselves and their place in the society to which they belong.

The middle school experience is the transition between elementary and high school when the student is between childhood and adolescence. Thus, the middle school program must be especially adapted to the unusually wide range of individual differences and needs of its students by providing a wide range of appropriate academic and exploratory experiences.

The role of the teacher in facilitating, nurturing, and advancing learning is constantly changing as educators gain better understanding of learning and child development. As new methods and techniques or organization and instruction emerge, it is essential that the middle school continually promote and implement needed innovations which reflect new knowledge.

The ability of administrators, counselors, and instructional staff to be flexible and adaptable in the use of space, curricular change, scheduling, and innovation is an essential aspect of middle school. The staffing of the middle school should reflect these characteristics.

In achieving its goals, the middle school must foster cooperative efforts and shared responsibility among all participants in the educational process - learners, parents, teachers, administrators, and the community.

Monroe County Middle School Objectives

1. The middle school provides opportunities for exploration and development of fundamental skills in reading, writing, speaking and listening.
2. The middle school provides students with the opportunity to gain a general education.
3. The middle school teaches students to learn how to examine and use information.
4. The middle school fosters in students a desire for learning now and in the future.
5. The middle school assists students in developing good character and self-respect.
6. The middle school provides a smooth educational transition between the elementary school and the high school while allowing for the physical and emotional changes taking place in our students.
7. The middle school provides an environment where the child, not the program, is most important and where the opportunity to succeed is ensured all students.

8. The middle school has competent instructional personnel who develop professional competencies which are both unique and applicable to the middle school students and who strive to understand the students whom they serve.

9. The middle school provides adequate facilities and time which allows students and teachers an opportunity to achieve the goals of the program.

10. Guidance is provided by teachers in the classroom on growth and development matters, with guidance counselors used as resource people.

11. The physical education program offers a wide variety of activities, including individual sports that carry over into recreational hours.

12. Learning experiences are provided for students at their own intellectual levels, relating to immediate as well as future academic goals.

13. The middle school provides adequate experiences in the arts for most middle school students to foster aesthetic appreciations and to stimulate creative expression.

14. Individualized instruction is provided so that the student can proceed successfully at his or her own pace and level of ability without undue competitive pressures.

15. Interdisciplinary teaming or block-time instruction is provided to help students make the transition from the single-teacher classroom of the elementary school to the more departmentalized classrooms of the high school.

16. Exploratory, enrichment programs built around students' hobbies and interests are a part of our formal curriculum.

17. The middle school provides a curriculum that deals with the social-emotional needs of the middle school learner.

18. An array of socializing experiences through social activities, group work, and other formal and informal situations is made available to our students.

19. Middle school teachers understand the physical, intellectual, and social-emotional developmental process of the middle school students and organize their teaching accordingly.

20. The principal provides leadership in setting an overall climate and attitude which leads to cooperative, constructive efforts by the teaching staff.

To determine whether or not current Monroe County School programs were achieving these objectives, the committee decided to collect data from parents, students and teachers. Sub-committees were appointed to develop necessary survey instruments. Fortunately, the committee was blessed with an

abundance of expertise in this area. Over a third of the committee (6) had earned doctorates and several others had completed advanced graduate studies. In addition, the Associate Dean for the research center of Indiana University was brought in as an advisor. A checklist was developed to ensure that appropriate data were collected in regards to each of the district's 20 objectives for each of the surveys. Each of the completed surveys appear in the appendix of this document.

The Teacher Opinion Survey was administered in May of 1981 to all of the teachers in the district's five middle schools. One hundred and thirty (93%) teachers completed the survey.

The Parent Opinion Survey was mailed to all parents (3,607) of students in grades 6, 7, 8, and 9. Eight hundred and eighty-four (884) or twenty-five percent (25%) of the surveys were returned. Because of the length of the original survey, the instrument was divided into two separate instruments (Form A and Form B) with key questions duplicated on both forms. Form A was mailed to fifty (50%) percent of the population and Form B was mailed to the other half of the general parent population. Stamped envelopes were enclosed for returning the survey. One week later, a follow-up letter was mailed to each parent personally requesting that the survey be completed and returned. From each of the two fifty percent populations, the computer had previously identified a random sample of twenty percent for comparison purposes, and surveys had been appropriately color coded for identification. Data were tabulated and grouped by the computer. These data were readily available to make comparisons by grade levels, by individual schools and by district-wide summaries, both by total parent responses and by the random sample responses. This process ensured that every parent, who had students in grades 6, 7, 8, and 9, had the opportunity to respond to a survey, and at the same time guaranteed that the committee also had access to data generated from a random sampling of the total parent population.

A comparison of the random sample responses and the total parent responses was made. Although a visual inspection of the data did not reveal any systematic differences, questions were selected and a chi-square test done to determine if the composite results were different from the random sample. In no case was there a statistically significant difference between the samples. Therefore, data presented in the main body of the report reflect the results from the "total community" survey.

The Student Opinion Survey was administered to all students in grades 6, 7, and 8. Two thousand two hundred and forty-four (2,244) or eighty-five percent (85%) of the students completed the survey. Six hundred and forty-four (644) or 78% of the 9th grade students in the corporation also completed a student survey.

The ninety-five (95) page report submitted to the Monroe County Community School Corporation Board entitled, "Middle School Study Committee Report, January, 1982" contains statistical data on all areas covered in this research including opinion surveys, North Central evaluation reports, standardized testing results, reading materials, and filmstrips used, as well as

the revised philosophy and objectives.

A Description of the Analysis Techniques

The scope of this study required that analysis take place by a variety of methods. Since the main emphasis was to evaluate in terms of the philosophy the report reflects this approach. The process used included the isolation of each paragraph in the philosophy, assigning the twenty objectives to the appropriate paragraphs and then assigning each survey question from each of the three survey instruments to the appropriate paragraph(s) and objectives. This assured that all areas in the philosophy were covered in the student, teacher, parent survey instruments.

Since the first paragraph of the philosophy was basically an "intent" statement which was clarified in later paragraphs, it was not included in this process. The following is illustrative of the process of the data reporting process:

Paragraph II of Philosophy

The middle school program must exert continuous effort to develop and refine students' academic skills through breadth and depth of learning in subject areas. This will enable students to acquire the critical skills of judgment, problem-solving, and decision-making required of participating citizens in contemporary society as well as in the society of the future.

Objectives: 1,2,3,4,5,12,13,14,16,17,18,19

Parent Survey

Summary of Results.

A critical aspect of middle school education is the teaching skills that will prepare students for success in contemporary society. Two out of every three (70%)¹ parents surveyed believed that the middle school is helping to teach our children to be responsible students and citizens. Two-thirds of the respondents believed that the middle school is doing a good job of teaching basic skills in English, mathematics and science. Three out of every four parents believed that the balance between basic subjects and exploratory subjects such as art, music, home economics and industrial arts is about right. When asked whether students should have more homework, only one-fourth agreed.

¹ In these analyses the percentages of "Strongly Agree" and "Agree" responses are added and the percentages of "Disagree" and "Strongly Disagree" are added, thus giving three gradations of responses - positive, undecided, and negative.

Parent percentages quoted in this section represent the composite scores of 6, 7, 8, and 9th grade parent responses.

Questions From Parent Survey

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1. Our middle school is helping to teach children to be responsible students and citizens.	10	60	18	8	1
5. Our middle school is doing a good job in teaching children the basic skills (such as English, math, science).	12	58	11	13	3
6. The balance between basic subjects and exploratory subjects (such as art, music, home economics, industrial arts) is about right.	9	68	9	9	3
23. Our middle school program helps children to understand and get along with other people.	4	59	22	10	2
29. My child should have more homework.	Yes 28% No 71%				

Similar sections report data from both the student and teacher surveys. By reporting in this fashion it was possible to discern immediately the reactions from parents, teachers, and students to each major objective in the philosophy.

Fortunately, the district's computer had been programed to tally and group data in a variety of ways. Raw numbers and percentages of responses were quantified for each individual item contained on each of the surveys. Data was compiled by grade level, by buildings, and by district-wide totals. Responses to open-ended questions were grouped by subject and reviewed.

Findings and Recommendations

The following findings and recommendations from the Middle School Study Committee were presented to the Monroe County Community School Corporation Board of School Trustees at its January 26, 1982 regular meeting.

Recommendation # 1

It is recommended that the present 6-7-8 grouping be continued in the Monroe County Community Schools.

The committee's study revealed that, in general, parents, students, and teachers are positive about and supportive of the middle school concept and program. The Monroe County Schools middle schools have evolved in a satisfactory manner since their inception in 1968-69 and are fulfilling the goals and objectives of middle school education as delineated by the

philosophy. Drawing upon this support, the Monroe County Schools has an opportunity to develop and even better the program of middle school education by careful attention to the following recommendations at the system level and implementation of those recommendations at the individual school level.

Recommendation # 2

The current emphasis and time devoted to teaching basic skills is appropriate and should be maintained.

Recommendation # 3

A continuing emphasis should be placed on the exploratory and activity aspects of the total middle school program.

Recommendation # 4

A more carefully articulated program of education at the elementary, middle, and the high school level should be planned and implemented in the Monroe County Community Schools through the combined efforts of administrators, teachers, parents, and students.

Recommendation # 5

A program of parent and student education concerning the roles and responsibilities of middle school counselors should be initiated.

Recommendation # 6

The middle school athletic program needs to be carefully reviewed.

Recommendation # 7

A sex education program, developed in collaboration with parents, the medical profession, and community agencies should be offered.

Recommendation # 8

The advisability of a substance abuse (drug/alcohol) program at the middle school level should be considered.

Recommendation # 9

As new instructional technologies emerge, it is important that they be carefully reviewed by teachers, administrators, and parents who are able to ensure that appropriate use is made of such resources in the schools.

Recommendation # 10

A continuing effort should be made to keep parents informed and aware of what is happening in the schools.

Recommendation # 11

The two middle schools which have not been accredited by the North Central Association of Colleges and Schools should take steps to seek such accreditation.

Recommendation # 12

Each middle school should be provided with results of the various surveys for their school in order to facilitate further evaluation and consideration.

After lengthy discussion, the report was accepted by the Board with the stipulation that consideration be given individually to each of the twelve recommendations by April 1, 1982.

At the February 9th board meeting, the Board considered numerous proposals concerning closing schools, redistricting, and the total reorganization of the district's grade structure. A motion was made that recommendation number one (1) of the Middle School Study Committee be adopted by the Board (Recommendation # 1 was to maintain the current 6-7-8 middle school structure). After deliberations, the motion was approved. There is little doubt that the data presented in the report was instrumental in determining the final outcome of this vote. Without a solid data-base which was very supportive of the district's middle school program, the decision to change from the current 6-7-8 structure would have likely occurred.

A follow-up meeting was held in March to consider the other eleven (11) recommendations. This report was unanimously approved by the Board.

Summary

The Middle School Report provides a solid data-base for educational decision-making for the district. Decisions concerning middle schools will be influenced by the results of this study for years to come. At the same time, the report will serve as a springboard for future inquiry into such diverse subjects as curriculum balance, substance abuse, and athletic programs. The results of these follow-up inquiries will also have immediate and long-range implications for the district's practices and policies concerning middle school programs.

TEACHER OPINION SURVEY

In the left set of five columns, record your level of agreement. In the right hand set of five columns assign the concept in the statement a level of significance with 1 being crucial and 5 of little or no significance. After you complete the survey, please transfer your answers to the computer cards.

Extent of Agreement Significance of Concept
A = strongly agree 1 = crucial
B = agree
C = undecided
D = disagree 5 = little or no
E = strongly disagree significance

1. Our school provides opportunities for exploration and development of fundamental skills needed by all while making allowances for individual learning patterns.
2. Our school provides a smooth educational transition between the elementary school and the high school while allowing for the physical and emotional changes taking place in our students.
3. Our school provides an environment where the child, not the program, is most important and where the opportunity to succeed is ensured all students.
4. Our school has competent instructional personnel who strive to understand the students whom they serve and develop professional competencies which are both unique and applicable to the middle school student.
5. Our school provides adequate facilities and time which allow students and teachers an opportunity to achieve the goals of the program.
6. Guidance is provided by teachers in the classroom on growth and development matters, with guidance counselors used as resource persons.
7. A program of sex education, developed in collaboration with parents, the medical profession, and competent community agencies is offered.
8. Physical education classes and student activities provide for individual differences by grouping students according to differing abilities and

CARD A					CARD B				
Extent Of Agreement					Significance Of the Concept				
(A)	(B)	(C)	(D)	(E)	1	2	3	4	5
(A)	(B)	(C)	(D)	(E)	(A)	(B)	(C)	(D)	(E)
17%	59%	11%	10%	0%	64%	28%	4%	1%	0%
30%	49%	14%	4%	1%	70%	22%	3%	2%	1%
18%	45%	23%	11%	1%	63%	24%	7%	4%	0%
40%	41%	10%	5%	1%	81%	13%	2%	0%	2%
17%	51%	14%	14%	1%	52%	39%	3%	2%	1%
17%	39%	27%	14%	0%	41%	38%	13%	4%	1%
6%	12%	26%	27%	26%	35%	24%	26%	6%	7%
10%	24%	27%	28%	9%	25%	39%	22%	9%	3%

9. The physical education program offers a wide variety of activities, including individual sports that carry over into recreational hours.
10. In the interscholastic sports program the number of games is limited, and most of them are held in the afternoon, after school hours.
11. In the interscholastic sports program, publicity is minimized, awards, league championships, and tournaments are de-emphasized.
12. Competitive sports are de-emphasized and more attention is directed toward programs of intramural sports where all levels of competition are accepted.
13. Our school provides time for daily exercise, or a place where students can "be children" by playing and being noisy for short periods of time.
14. The school nurse is a useful resource to teachers.
15. Learning experiences are provided for our students at their own intellectual levels, relating to immediate rather than remote academic goals.
16. Our school has a diversified curriculum of exploratory and/or fundamental activities which result in daily successful experiences for students.
17. Students at our school have opportunities for the development of problem-solving skills, reflective-thinking processes, and awareness for the order of their own environment.
18. Students are provided cognitive learning experiences so structured that they can progress in an individualized manner.
19. At our school some traditionally departmentalized areas of the curriculum have been combined and are taught around integrative themes, topics, and experiences.
20. Those areas of the curriculum which are concerned with the basic skills and are logical, sequential, and analytical are taught in ungraded or continuous progress

CARD A					CARD B				
Extent of Agreement					Significance of the Concept:				
(A)	(B)	(C)	(D)	(E)	1	2	3	4	5
(A)	(B)	(C)	(D)	(E)	(A)	(B)	(C)	(D)	(E)
37%	38%	15%	7%	1%	50%	32%	11%	3%	2%
26%	37%	15%	10%	10%	22%	32%	24%	10%	10%
19%	35%	22%	14%	7%	19%	28%	25%	13%	12%
4%	17%	23%	33%	21%	21%	29%	27%	9%	11%
23%	38%	14%	16%	7%	44%	31%	14%	6%	3%
20%	39%	22%	12%	5%	39%	39%	15%	3%	2%
14%	50%	21%	10%	3%	44%	44%	8%	1%	0%
14%	46%	19%	14%	5%	46%	36%	15%	0%	1%
21%	50%	18%	9%	0%	56%	29%	9%	3%	0%
15%	31%	34%	15%	2%	42%	39%	13%	3%	1%
13%	41%	22%	16%	6%	27%	44%	18%	5%	4%
4%	19%	30%	27%	17%	17%	37%	30%	9%	5%

	CARD A					CARD B				
	Extent of Agreement					Significance of the Concept				
	(A)	(B)	(C)	(D)	(E)	(A)	(B)	(C)	(D)	(E)
21. At our school the traditional lecture-recitation methods of instruction are minimized.	7%	40%	30%	18%	3%	21%	38%	27%	7%	5%
22. Our school provides adequate experiences in the arts for most middle school students to foster aesthetic appreciations and to stimulate creative expression.	17%	37%	17%	21%	5%	42%	38%	16%	2%	0%
23. At our school individualized instruction is provided so that the student can proceed successfully at his or her own pace and level of ability without undue competitive pressures.	11%	25%	28%	28%	5%	34%	38%	19%	5%	1%
24. Interdisciplinary teaming or block-time instruction is provided to help students make the transition from the single-teacher classroom of the elementary school to the more departmentalized classrooms of the high school.	39%	32%	10%	11%	5%	48%	31%	15%	3%	1%
25. Exploratory, enrichment programs built around students' hobbies and interests are a part of our formal curriculum program.	6%	25%	20%	30%	16%	21%	39%	26%	10%	1%
26. Our school provides a curriculum that deals with the social-emotional needs of the middle school learner.	9%	39%	32%	16%	3%	40%	42%	9%	3%	3%
27. Our school fosters close, cooperative efforts among all participants -- learner, parent, and teacher.	27%	46%	14%	8%	3%	59%	35%	3%	2%	0%
28. Through administrative arrangements continuous, cooperative curriculum planning takes place among elementary, middle, and secondary personnel.	4%	18%	30%	25%	20%	44%	36%	10%	7%	0%
29. Our school provides guidance counseling which facilitates the social-emotional needs of middle school students.	31%	38%	17%	9%	2%	57%	28%	8%	4%	0%
30. An array of socializing experiences through social activities, group work, and other formal and informal situations is made available to our students.	18%	47%	20%	13%	0%	34%	46%	3%	3%	1%
31. Grouping practices are adequately flexible to satisfy the desires, interests, goals, and wants of middle school students.	7%	36%	33%	20%	2%	31%	40%	20%	6%	1%
32. The basic structure of our guidance-counseling program is home-based groups or teacher advisor arrangements in which all teachers fill a counseling role.	5%	18%	28%	31%	16%	17%	34%	30%	10%	5%

	CARD A					CARD B				
	Extent of Agreement					Significance of the Concept				
	(A)	(B)	(C)	(D)	(E)	(A)	(B)	(C)	(D)	(E)
33. The teachers at our school understand the physical, intellectual, and social-emotional developmental process of the middle school students and organize their teaching accordingly.	20%	55%	10%	10%	2%	57%	36%	3%	0%	1%
34. The teachers at our school attempt to utilize group dynamics in their teaching, in order to help students understand group process, group decision making, leadership skills and peer influence.	10%	41%	31%	13%	2%	35%	40%	13%	7%	2%
35. Our principal takes the lead in setting an overall climate and attitude within the building which leads to cooperative, constructive efforts by the teaching staff.	40%	35%	9%	11%	3%	71%	25%	1%	1%	0%
36. Our principal is supportive of teachers in their efforts for curriculum development and instructional renewal and change.	45%	40%	7%	3%	3%	67%	28%	1%	0%	0%
37. Our principal displays leadership in the planning, development, and implementation of an inservice program for staff development based on the emerging needs of the staff.	27%	36%	15%	16%	4%	52%	34%	10%	2%	0%
38. Our principal relates to and has a sincere personal interest in the students.	58%	25%	9%	5%	1%	79%	16%	3%	1%	0%
39. Our principal assumes the responsibility for planning and directing a continuing evaluation of the school program.	34%	43%	14%	5%	2%	56%	38%	3%	1%	0%
40. Our school develops student skills in reading, writing, speaking and listening. (a) Develop ability to communicate ideas and feelings effectively. (b) Develop skills in oral and written English.	38%	51%	9%	0%	0%	75%	20%	3%	0%	0%
41. Our school provides students with the opportunity to gain a general education. (a) Develop background and skills in the use of numbers, natural sciences, mathematics, and social sciences. (b) Develop a fund of information and concepts. (c) Develop special interests and abilities.	45%	45%	7%	1%	0%	72%	24%	2%	0%	0%
42. Our school teaches students to learn how to examine and use information. (a) Develop ability to examine constructively. (b) Develop ability to use scientific methods. (c) Develop reasoning abilities. (d) Develop skills to think and proceed logically.	27%	49%	18%	3%	0%	65%	29%	3%	1%	0%

CARD A						CARD B					
Extent of Agreement						Significance of the Concept					
(A)	(B)	(C)	(D)	(E)		1 (A)	2 (B)	3 (C)	4 (D)	5 (E)	
43. Our school fosters in students a desire for learning now and in the future.											
(a) Develop intellectual curiosity and eagerness for lifelong learning.											
(b) Develop positive attitude toward learning.											
(c) Develop positive attitude toward continuing independent education.											
17%	57%	19%	6%	0%		73%	22%	2%	1%	0%	
44. Our school assists students in developing good character and self-respect.											
(a) Develop moral responsibility and a sound ethical and moral behavior.											
(b) Develop the student's capacity to discipline himself to work, study, and play constructively.											
(c) Develop a moral and ethical sense of values, goals, and processes of a free society.											
(d) Develop standards of personal character and ideas.											
24%	46%	18%	9%	0%		74%	19%	3%	2%	0%	

45. Some of the concepts and practices at our school which I find undesirable and would like to see changed are:

46. Some of the things that are presently being done at our school which I would like to see continued or expanded are:

47. If you had your choice, at which level would you prefer to teach?

Elementary (1-5) 9.8% Middle School (6-8) 80% High School (9-12) 9.8%

STUDENT OPINION SURVEY

The MCCSC Middle School Study Committee is interested in your opinions about middle schools. The purpose of this opinion survey is to help us discover more about middle schools so that improvement might be made. Your opinions are valuable.

This is not a test. There are no right or wrong answers. Your answers will be kept completely confidential. Do not sign your name or identify yourself in any way.

Directions

Please read each statement carefully. Note there are five possible responses for each statement: A, Strongly Agree, B, Agree, C, Undecided, D, Disagree, and E, Strongly Disagree. Please place a check mark in the box to the right indicating your feeling about each statement as it applies to your middle school.

KEY:

- A Strongly Agree:** This means you agree that most of the time the statement is true about your middle school.
- B Agree:** This means that the statement is true about your school much of the time although there may be times when it isn't.
- C Undecided:** This means you aren't sure one way or the other. Maybe you haven't thought enough about the statement to decide.
- D Disagree:** This means you do not agree with the statement as it applies to your school. In other words, much of the time it isn't true.
- E Strongly Disagree:** This means the statement never or almost never applies to your middle school.

The faces, smiling to frowning, are provided to help you remember the KEY, from one extreme to the other, as you progress through the survey.

Example:

The food served in the school lunchroom is as good as my mother serves at home.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
A 	B 	C 	D 	E 
			✓	

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
	A 	B 	C 	D 	E 
1. I am proud of my school.	42	39	12	3	1
2. School spirit at my school is good.	30	51	11	4	1
3. Overall, I am satisfied with my middle school.	28	49	14	5	1
4. I think my school offers a good variety of subjects to study.	21	42	22	9	3
5. I participate in interesting activities at my school (sports, clubs, student council, dances, etc.).	26	37	17	13	5
6. Most of the students like our school.	19	43	26	7	2
7. I feel that I would be accepted in most of the activities offered in my school.	17	41	22	8	3
8. I would feel comfortable in going to a counselor to talk about a problem that I might have.	17	25	30	16	9
9. My teachers care about how well I learn the subjects they teach.	33	39	17	6	3
10. I think most of what I am studying will be useful to me in high school.	33	42	16	5	1
11. Rules and regulations for my school are enforced the same for everyone.	33	36	14	10	5
12. The length of time of our classes is just about right.	22	45	16	10	5
13. The teachers and coaches who sponsor and supervise special activities at my school do a good job.	32	39	19	5	2
14. My teachers clearly explain what to do on assignments.	16	41	21	14	5
15. Counselors at my school understand our problems.	18	28	39	8	5
16. I am satisfied with the way my teachers teach their subjects.	16	46	21	11	4
17. My school needs more rules for controlling behavior of students.	15	14	25	25	19
18. My school gives us time for just talking and being with friends.	10	26	16	22	24

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
	A	B	C	D	E
19. My school offers enough activities for most of the students.	16%	44%	17%	14%	7%
20. My teachers are willing to give students individual help after class.	20	40	24	9	5
21. I am satisfied with the way counselors help me in solving personal problems.	12	20	51	8	7
22. I think I am learning a lot in middle school.	28	46	16	5	2
23. Most students obey our school rules.	8	37	25	17	10
24. My classes require thinking skills and not just memorization.	21	46	21	6	3
25. I find most of my classes interesting and challenging.	16	39	23	13	6
26. My teachers usually explain the reason why we do a particular assignment or unit in class.	13	37	22	18	7
27. I am able to make an appointment quickly and talk to one of the principals any time a problem arises.	12	26	35	15	11
28. I think I should be required to study more.	14	20	27	9	17
29. Our school rules are fair.	20	41	21	9	7
30. My tests cover the materials that have been taught.	35	46	11	4	2
31. Most of the students in my school are friendly.	17	42	20	10	8
32. Most students are satisfied with the way they are treated by principals.	12	32	31	14	9
33. I think many of the things I should be learning are being taught in my school right now.	18	43	23	9	4
34. I talk to my parents about school.	32	42	12	8	4
35. My tests are fair.	27	49	17	5	4
36. I feel that I "belong" in my school.	36	35	16	4	6

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
	A	B	C	D	E
37. My teachers try to make sure that we understand what they teach in class.	23	49	15	7	3
38. The principal at my school cares about us as individuals.	21	33	26	11	7
39. My parents think I go to a good school.	38	34	16	6	4
40. My teachers teach in many ways, not just by lecture.	28	44	16	6	3
41. Skills in reading, writing, speaking, and listening are emphasized in our school.	22	40	24	8	3
42. A competitive sports program for sixth grade should not be a part of our middle school's regular program.	17	12	16	14	38
43. I understand how well I am doing in my classes.	24	47	16	8	3
44. Skills in the use of science, math, and social studies are emphasized in our school.	28	45	18	4	2
45. Drugs are not a problem for students in my school.	31	23	25	10	9
46. Alcohol is not a problem for students in my school.	36	24	23	7	7
47. I think elementary school did a good job of preparing me for middle school.	26	33	18	12	10
48. Courses such as art and music should be required of all middle school students.	22	23	20	16	16
49. Teachers in my school are friendly and seem to care about me.	26	37	22	7	6

PARENT OPINION SURVEY

FORM A

Summary of all Returns for Form A

Total Number of Returns: 447
Number of Possible Returns: 1791
Percentage of Returns: 25%

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1. Our middle school is helping to teach children to be responsible students and citizens.	10%	62%	18%	7%	1%
2. I seldom discuss my child's school work and activities with him/her.	2%	3%	6%	31%	61%
3. Our middle school provides a smooth educational transition between the elementary and the middle school.	12%	52%	15%	13%	5%
4. Our middle school provides a smooth educational transition between the middle school and high school.	6%	42%	42%	5%	2%
5. Our middle school is doing a good job in teaching children the basic skills (such as English, math, science).	12%	58%	12%	13%	2%
6. The balance between basic subjects and exploratory subjects (such as art, music, home economics, industrial arts) is about right.	7%	70%	2%	0%	3%
7. A program of sex education developed in collaboration with parents, the medical profession, and competent community agencies should be offered.	33%	41%	15%	4%	4%
8. My child enjoys our middle school.	28%	58%	6%	5%	1%
9. My child is not yet ready to accept responsibility for school work.	2%	8%	4%	43%	40%
10. Competitive sports between schools should be a part of our middle school program.	25%	44%	13%	10%	5%

Please Circle Only One Response

12.	13%	31%	22%	24%	7%
13.	7%	53%	23%	12%	2%
14.	10%	59%	8%	15%	4%
15.	4%	13%	15%	51%	14%
16.	8%	60%	20%	9%	2%
17.	1%	13%	14%	57%	12%
18.	6%	60%	18%	12%	1%
19.	18%	30%	14%	31%	4%
20.	6%	21%	15%	45%	10%
21.	4%	43%	26%	20%	5%
22.	1%	1%	3%	63%	28%
23.	4%	41%	32%	17%	4%
24.	1%	40%	30%	18%	8%
25.	5%	45%	37%	9%	3%
26.	12%	55%	24%	3%	1%
27.	4%	34%	6%	32%	21%
28.	11%	60%	10%	11%	5%
29.	YES 21%		NO 76%		
30.	YES 30%		NO 69%		

A competitive program for sixth grades should not be a part of our middle school's regular program.

Our middle school meets the special needs of this age group of students.

Our middle school meets my child's educational needs.

Our middle school does not provide a warm, supportive, learning atmosphere for my child.

I understand the instructional program at our middle school.

The physical education program at our middle school does not offer enough variety to meet children's physical development needs.

The social/recreational activities provided at our middle school are right for my child's level of maturity.

A six week grading period would be more informative to me than the present nine week report.

My child does not receive the individual attention that he/she needs at our middle school.

Our middle school fosters close, cooperative efforts among all participants - student, parent, and teacher.

Rules and regulations affecting students in our middle school are too strict.

The behavior of the students at our middle school is good.

Students in our middle school are generally respectful to one another.

Our middle school provides counseling for the social and emotional needs of the middle school child.

Our middle school staff is willing to listen to parent's ideas and opinions about the school program.

My child enjoys school lunches.

Overall, I am satisfied with my child's middle school.

I seldom attend our middle school functions.

My child should have more homework.

PARENT OPINION SURVEY

FORM B

Summary of all Returns for Form B

Total Number of Responses: 437
 Number of Possible Responses: 1816
 Percentage of Responses: 24%

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1. Our middle school is helping to teach children to be responsible students and citizens.	11%	58%	18%	9%	1%
2. I seldom discuss my child's school work and activities with him/her.	2%	3%	0%	32%	61%
3. Our middle school provides a smooth educational transition between the middle elementary and the middle school.	10%	52%	18%	13%	3%
4. Our middle school provides a smooth education and transition between the middle school and high school.	7%	45%	37%	7%	2%
5. Our middle school is doing a good job in teaching children the basic skills (Such as English, math, science).	12%	59%	10%	12%	4%
6. The balance between basic subjects and exploratory subjects (such as art, music, home economics, industrial arts) is about right.	10%	65%	9%	8%	4%
7. A program of sex education, developed in collaboration with parents, the medical profession, and competent community agencies should be offered.	30%	45%	10%	8%	5%
8. My child enjoys our middle school.	34%	54%	3%	5%	2%
9. My child is not yet ready to accept responsibility for school work.	1%	9%	4%	39%	45%
10. Competitive sports between schools should be a part of our middle school program.	1%	4%	11%	0%	7%

Please Circle Only One Response

11.	7%	33%	31%	15%	11%
12.	17%	31%	13%	24%	14%
13.	9%	52%	22%	12%	3%
14.	25%	58%	9%	5%	0%
15.	0%	2%	5%	50%	40%
16.	7%	55%	12%	19%	5%
17.	4%	5%	9%	55%	25%
18.	5%	40%	34%	15%	4%
19.	14%	54%	20%	0%	2%
20.	11%	65%	16%	4%	2%
21.	8%	46%	26%	14%	5%
22.	0%	2%	12%	60%	23%
23.	4%	59%	22%	10%	2%
24.	6%	42%	28%	16%	6%
25.	13%	71%	7%	4%	2%
26.	6%	45%	18%	20%	9%
27.	7%	51%	22%	13%	5%
28.	18%	59%	8%	9%	4%
29.	YES 25%	NO 74%			
30.	YES 67%	NO 32%			

Drugs and alcohol are not a serious problem in my child's middle school program.

A competitive sports program for sixth grades should not be a part of our middle school's regular program.

Our middle school meets the special needs of this age group of students.

Student participation in school activities is an important aspect of education at our middle school.

Students in our middle school should not participate in planning student activities.

Our middle school report card clearly informs me of my child's progress.

It is difficult to contact the principal and teachers if I have questions about my child.

Our middle school provides an environment where the child, not the program, is most important.

The principal and teachers at our middle school care about my child's individual progress.

Most students and teachers in our middle school maintain good working relationships.

Discipline is consistently enforced within our middle school.

There is too much order and structure at our middle school.

Our middle school program helps children to understand and get along with other people.

Our middle school provides adequate academic guidance counseling.

Our middle school is well maintained.

Our middle school lunch program offers good choices.

I understand the role of the counselor in my child's middle school.

Overall, I am satisfied with my child's middle school.

My child should have more homework.

I have attended a parent-teacher conference at our middle school.

Section III

Development vs. School Structure

FOURTEEN-YEAR-OLDS: ARE THEY EARLY ADOLESCENTS?

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Within the past decade there has been a surge of interest in early adolescents, particularly in the areas of physical, cognitive, and social change. It is believed that individuals ages 10 through 14 are more unique today than has ever been true in the study of human development. The movement has primarily originated from the field of education with other professions/professionals gradually showing heightened interest in these ages. The middle school movement was specifically designed to meet these individual needs and was proposed as an alternative to the junior high school.

The data on physical growth characteristics is reasonably strong. The study of adolescence over the years has caused adolescent researchers to identify growth processes at increasingly earlier ages. In effect, the major transition in adolescent physical growth occurs between the ages of 11-13 years for girls and 12-14 for boys (Tanner, 1937; Thornburg, 1982a). Thus, the middle school/junior high student is either active in major growth or fairly well through it. Adolescent interests which have been tied to physical maturation are now occurring in early adolescents instead.

As cognitive studies have become increasingly more sophisticated a glaring deficit in knowledge exists concerning the transition between concrete and formal thinking in early adolescents. Educators have become confused as researchers have attacked many Piagetian notions (Belin, 1975; Gelman, 1969; Zimmerman, 1979) and as alternative theories, such as brain growth (Epstein, 1978, 1979) have been proposed to explain the nature of early adolescent thought. In reality, the data for describing the nature of early adolescent thinking are poor and developmental psychologists recognize that they have no conclusive basis for explaining early adolescent thought processes. A series of studies are now being undertaken which seeks to better explain the nature of such thought (Bereiter, C. & Scardamalia, 1979; Case, 1980; Keating, 1979; Neimark, 1979; Pulos & Linn, 1981; Pulos, Stage, & Karplus, 1982). What seems apparent is that better differentiated instructional environments which maximize the students potential to learn would answer many of the seemingly unanswerable questions (Thornburg, 1982b).

Little interest has been shown in the social characteristics of early adolescents. Family sociologists and some adolescent

psychologists have sparked most of the research which has been undertaken. Studies have been designed to investigate the sociological characteristics of students and schools and the developmental characteristics of students. As developmental psychologists, we raise the question as to how much social characteristics are attributable to development rather than schooling. Of course, there are other social environments which may impact as heavily as the schools on early adolescent's lives.

The purpose of this paper was to look at fourteen-year-olds who were in grade eight or grade nine and compare their social characteristics. By controlling for age it is possible to focus on grade effects and determine if grade level or school structure is accounting for any differences which might be found. The primary hypothesis within this paper is that "there will be no significant differences in fourteen-year-olds who are in grade 8 or 9 as measured by twelve different social characteristic scales.

Methodology

Subjects

The subjects for this study were 2561 students enrolled in grades 4 through 9 in four different school configurations in the states of North and South Carolina. The overall structural configurations were K-8, 5-8, 6-8, and 7-9. In this paper, fourteen-year-olds in grade nine ($n=126$) were compared with fourteen-year-olds in grade eight ($N=72$). The total sample size for this subsample was 198 students.

Instrument

Students were administered the 100-item Mid-Years-Opinion Questionnaire which was developed in 1980 by Thornburg. The scale contains twelve subscales, each of which are designed to measure some social or perceptual characteristic. The scaling technique is a modified Likert with the range being, 1 = Strongly Agree, 2 = Agree, 3 = Disagree, and 4 = Strongly Disagree. Items on the 12 subscales are randomly distributed on the scale. The purpose of each scale is as follows:

1. Perceived Anonymity

Students perceptions of the anonymity of their school/environment is based on a four-item scale, all of which load on this single factor. There has been some indications that the greater the perceived anonymity, the greater the overall problems of the student (Blyth, Simmons, & Bush, 1978).

2. Perceived Victimization

By victimization is meant an assault, robbery, or theft of unknown seriousness which happened to an individual in or around the school. Six items are used to measure the extent to which students report being victimized (Blyth, et al., 1978).

3. Dating Behavior

This six-item scale is modified from a scale used by Blyth et al. (1978). This scale measures one's perception about dating as opposed to actual dating practices.

4. Self-Esteem Inventory

This is a modification of a seven-item scale used by Rosenberg (1965) in several studies. The items deal with the degree to which the students feel generally positive or negative about themselves.

5. Student Activity Survey

This is an eight-item scale which is a modification of questions asked in the original high school students of James Coleman in 1960-1961. The purpose here is to determine the extent to which school-related activities are important to students, an important factor given the earlier search for personal identity and the stress at the middle/junior high school level on extracurricular activities and athletic participation and events.

6. Health Attitudes

This ten-item scale is part of a larger 40-item scale which measures the attitudes held by early adolescents about general health and personal health care. It is useful in determining the extent to which early adolescents are aware of health as a personal dimension of growth and development.

7. Preferred Teacher Characteristics Scale

This scale is designed to determine which characteristics within a classroom teacher are preferred by students. It is a ten-item scale.

8. Social Roles Inventory

This ten-item subscale is part of a larger 30-item scale which measures an individual's attitudes toward changing social/sex roles, especially the role of women in society and the pursuit of the concept of equality (Thornburg, 1979).

9. Parental Influence Scale

This ten-item scale is part of a larger 30-item scale which measures the extent to which an early adolescent perceives he/she can influence the decision-making and behaviors of their mother and father (Thornburg & Shinn, 1982).

10. Generational Difference Scale

This 15-item scale measures the extent to which early adolescents perceive if there are generational differences between them and adults (Thornburg & Burpeau, 1980).

11. Parent Power Inventory

This seven-item scale is taken from the work of Elder (1962). It ascertains the nature to parents-child interaction. Its seven level differentiation ranges from authoritarian to permissive.

12. Teacher Power Inventory

This seven-item scale is a modification of the work done by Elder on parental power structures. It is designed to measure the student's perception of whether a classroom teacher is primarily authoritarian, democratic, or permissive.

Results

The results of the study verified the hypothesis that there were no significant differences between fourteen-year-olds in grades 8 and 9. Each subscale was analyzed for significance. The findings are as follows:

1. Anonymity subscale: 8th grade mean=11.53; 9th grade mean=11.33; F -ratio=.368.
2. Victimization subscale: 8th grade mean=12.54; 9th grade mean=12.97; F -ratio=1.478.
3. Dating subscale: 8th grade mean=12.04; 9th grade mean=11.77; F -ratio=.405.
4. Self-esteem subscale: 8th grade mean=15.08; 9th grade mean=15.73; F -ratio=2.039.
5. Student activities subscale: 8th grade mean=22.40; 9th grade mean=22.39; F -ratio=.001.
6. Health subscale: 8th grade mean=28.94; 9th grade mean=29.87; F -ratio=2.416.

7. Preferred teacher characteristics subscale: 8th grade mean=28.13; 9th grade mean=27.10; F -ratio=3.658.
8. Social roles subscale: 8th grade mean=18.97; 9th grade mean=18.66; F -ratio=.268.
9. Parental influence subscale: 8th grade mean=29.04; 9th grade mean=28.46; F -ratio=.907.
10. Generational differences subscale: 8th grade mean=33.86; 9th grade mean=28.46; F -ratio=.907.
11. Parent power subscale: 8th grade mean=18.11; 9th grade mean=17.98; F -ratio=.139.
12. Teacher power subscale: 8th grade mean=18.12; 9th grade mean=17.78; F -ratio=1.114.

Discussion

Results of this study attribute social behavior to development rather than to the educational environment. Various other studies have indicated that some school environments are preferential to others. These studies differ in two ways from the study at hand. First, this study looked at 14-year-olds only in two grade level contexts, grades 8 and 9, whereas other studies focus on overall configurations. Second, the 14-year-olds in this study came out of four different overall configurations, K-8, 5-9, 6-8, and 7-9. Looking at this dimension only, additional analyses yield no differences in these 14-year-olds due to setting. Further, the 14-year-olds in the 9th grade, all in a traditional 7-9 school configuration, did not demonstrate any social characteristics or preferences different from the 14-year-olds in grade 8.

Clearly, this study cannot substantiate organizational differences as a factor in student social characteristics. Results such as these suggest that the primary focus in education should be on understanding the nature of the early adolescent and then focus on the organizational and administrative features that might best meet these needs. The tendency is to reverse this process or to focus solely on organizational and administrative characteristics. If the middle school, in particular, is designed to address individual needs that junior high schools have failed to meet, then understanding the student is an absolute pre-requisite to all other school/educational decision-making.

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THE RELATIONSHIP BETWEEN DEVELOPMENT, SCHOOLING, AND SELF-ESTEEM

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Several recent investigations designed to identify characteristics of psychosocial development during adolescence have included a component of self-esteem (e.g., Jones, 1981; Blyth, Simmons & Bush, 1978; Simmons & Rosenberg, 1975; Simmons, Rosenberg & Rosenberg, 1973). Typically, a primary impetus of these efforts has been to delineate potential mediators of adolescent self-esteem. Documented mediators to date include: (a) gender (Jones, 1981; Blyth et al., 1978; Simmons et al., 1975), (b) age and ethnicity (Simmons et al., 1975, 1973), and (c) grade and/or transition into a novel educational configuration (Blyth et al., 1978; Simmons et al., 1973). Unfortunately, several inconsistencies between these studies and subsequent findings have increased the complexity in making conclusive interpretation and inference.

Perhaps the most notable discrepancy involves the theoretical paradigms underlying the research designs. More specifically, the study of adolescent self-esteem has been approached from two diverse perspectives: developmental and sociological. Developmental studies have predominately examined adolescent self-esteem in conjunction with age and grade differences whereas sociological paradigms have examined educational transition, either grade increments or structural transition. Although both methods have demonstrated that adolescent self-esteem is affected by grade and age, the fact that the two are highly correlated has often been ignored.

Interpretation and inference within paradigms is often confusing also. For example, studies which have reported grade differences in adolescent self-esteem have failed to recognize the diverse age ranges contained within a given grade level (Blyth et al., 1978). Investigations reporting the mediational effects of age typically collapse several specific ages into three or four categories thus reducing the quality and quantity of potential information (Simmons & Rosenberg, 1975; Simmons et al., 1973).

In an attempt to reduce the difficulties inherent to previous adolescent self-esteem research, the present study was designed to explore the mediational effects of gender, grade, age, and structural transition on early adolescent self-esteem. Extracting age effects from grade effects might conceivably shed new light on the developing adolescents self-esteem.

Method

Sample

The sample for this study was drawn from eight different schools in North and South Carolina. The 1782 students in the study were part of the larger sample discussed in the Thornburg and Jones presentation.

Measurement

Adolescent self-esteem was assessed by the Rosenberg Self-Esteem Scale (1965). The seven-item scale has been utilized with a wide age range of subjects and has proven to be valid and reliable. The scale assesses individual perceptions involving self-evaluation. (For information regarding the psychometric properties of this scale with adolescent samples, see Jones, 1981; Blyth et al., 1978; Rosenberg, 1965).

Results

Analysis of variance techniques were employed to examine the mediational effects of age, grade, and gender on early adolescent self-esteem. For each analysis, self-esteem was entered as the dependent measure and either gender with age, or gender with grade were the independent variables. Both analyses represented 2 (gender) X 5 (age or grade) factorial designs.

The Relationship Between Grade, Gender, and Early Adolescent Self-Esteem

As shown in Table 1, significant main effects were observed on both independent variables. Females reported significantly higher levels of self-esteem than males ($F[1,1656]=11.07$; $p < .001$), and higher grade levels resulted in lower levels of self-esteem for both sexes ($F[4,1656]=5.21$; $p < .001$). Within grades 4-6, male self-esteem was greater than the females, but females in grades 7-9 expressed significantly higher levels of self-esteem than their male cohorts. The most notable self-esteem difference between males and females was observed in the eighth graders. Eighth grade female self-esteem was almost two points higher than that of the eighth grade males. Furthermore, eighth grade males possessed lower self-esteem than males in all other grade levels as well as all the females regardless of grade level.

The significant main effect for grade level indicates that fourth and fifth graders possess the highest self-esteem levels of all grade levels examined. Further, examination of cell means (cf. Table 1) indicates that with each increase in grade level, lower levels of self-esteem were reported. This phenomenon is most notable for eighth graders.

Table 1
Adolescent Self-Esteem by Grade and Gender

Grade**	Gender*			
	Male		Female	
	$\bar{X}$	SD	$\bar{X}$	SD
4,5	17.03	3.44	16.43	3.19
6	16.30	3.61	16.23	3.31
7	16.08	3.21	16.61	2.95
8	14.73	2.98	16.23	2.99
9	15.23	3.09	16.07	2.81

* $F(1,1656)=11.07$; $p < .001$

** $F(4,1656)=5.21$; $p < .001$

Grade X Gender $F(4,1656)=4.64$; $p < .001$

As might be expected from the discussion concerning main effects, the grade X gender interaction was also significant ($F[4,1656]=4.64$; $p < .001$). This relationship indicates that males in fourth and fifth grade possess higher levels of self-esteem than all other males and all females, but, male esteem-dropped markedly with each increase in grade level through grade eight and then slightly increased in grade nine. For the females, esteem decreased from fourth/fifth to sixth grade, reached its zenith in grade seven, and gradually lowered with each grade increase through eighth and ninth grades. The gender by grade interaction occurred between grades six and seven.

The Relationship Between Age, Gender and Early Adolescent Self-Esteem

The analysis that implemented age and gender as independent measures yielded significant differences for both main effects. As expected, females reported higher levels of self-esteem than males ($F[1,1777]=10.50$; $p < .001$) and with the exception of age twelve, self-esteem decreased significantly with each age increment ($F[1,1777]=6.97$; $p < .008$). As shown in Table 2, the relationship between self-esteem and age for males paralleled that of the females. Although females consistently reported higher levels of esteem than males (regardless of age), both male and female self-esteem was highest among nine and ten year olds, decreased in

Table 2
Adolescent Self-Esteem and Age and Gender

Age**	<u>Gender*</u>			
	Male		Female	
	$\bar{X}$	SD	$\bar{X}$	SD
9, 10	16.04	4.57	16.28	3.14
11	15.29	4.54	15.82	3.70
12	15.70	3.87	16.27	3.50
13	14.68	4.04	15.38	4.47
14, 15	13.81	4.17	14.00	4.02

* $F(1,1777)=10.50$; $p < .001$

** $F(4,1777)=6.97$; $p < .008$

Age X Gender $F(4,1777)=.20$; N.S.

the eleven year olds, increased in the twelve year olds, and then lowered from twelve to thirteen and thirteen to fourteen/fifteen years of age.

The Relationship Between Self-Esteem and Transition to a New School Structure

The final analysis involved examining the effects of (school) structural transition and adolescent self-esteem. School structure was collapsed to separate adolescents who were entering a new school structure with advanced grade level from those who advanced grade levels within the same school structure. Of the four structural configurations defined within this sampling frame, two transition years were identified--sixth and seventh grades. The first analysis utilized self-esteem scores for all sixth graders as the dependent variable and structural transition (as opposed to no transition) as the two levels of the independent variable. The second analysis was identical to the first, except transition to seventh grade was examined. The results for both analyses are presented in Table 3. Transition into grade six significantly reduced adolescent self-esteem ($F[1,443]=9.96$; $p < .002$), but exerted no significant influence on seventh graders' self-esteem ($F[1,501]=.15$; N.S.). Apparently, transition occurring at lower grade levels is more likely to affect early adolescent self-esteem than latter structural transitions.

Table 3

Adolescent Self-Esteem by School Transition: Sixth and Seventh Grade

Grade (Transition year)	<u>School Structure</u>				<u>F</u>	<u>p</u>
	New School		Same School			
	$\bar{X}$	SD	$\bar{X}$	SD		
6th	15.89	3.35	16.95	3.50	9.96	.002
7th	16.29	3.08	16.40	3.12	.15**	N.S.

*df=1,443

**df=1,501

Collectively, the results of this study indicate that age is a more potent mediator of adolescent self-esteem than either grade or structural transition. Clearly, future investigations concerning psychosocial development should consider this finding when attempting to address related issues during adolescence.

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